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(54) Title: STEATOSIS-MODULATING FACTORS AND USES THEREOF

(57) Abstract: The present invention relates to a method of modulating the muscular steatosis-modulating factors (MSMF). The determination of concentrations of the MSMF is described for the establishment of the steatotic state in individuals. Also, is disclosed a method of selecting individuals to serve as founders of animal lineages. The present method involved too the treatment of human and animals with agonists or antagonists of MSMF depending of the effects desired.

STEATOSIS-MODULATING FACTORS AND USES THEREOF

BACKGROUND OF THE INVENTION

(a) Field of the Invention

The invention relates to a measurement of the level of muscular steatosis-modulating factor (MSMF) in human or animal. The method is performed by measuring level of MSMF in a biological sample, and then screening individual having normal and abnormal level of MSMF.

(b) Description of Prior Art

Mammalian skeletal muscle normally undergoes a reparative process after oxidative stress or traumatic injury. The process of skeletal muscle repair is actually a series of discrete overlapping events, which can be segregated into trauma, tissue degeneration, inflammation, phagocytosis, angiogenesis, stem cell activation, migration of the stem cells to the site of injury, proliferation of undifferentiated stem cells, re-innervation, differentiation of the stem cells, and remodeling of the tissue.

The early restored muscle tissues approximate embryonic-like satellite cells containing centrally located nuclei and lies adjacent to mature myofibers containing peripherally located nuclei. Unfortunately, restoration of physiological function may be compromised due to the increased proliferative nature of the surrounding connective tissues, eventually forming non-functional scar tissue.

Research in other areas has indicated that various factors such as platelet derived growth factor (PDGF), chicken muscle growth factor (CMGF), epidermal growth factor (EGF), sciatic nerve extract, insulin,

and somatomedins stimulate a mitogenic or proliferative response in cultured muscle cells. This response should be contrasted with a myogenic response that does not induce myogenic lineage commitment of uncommitted stem cells, but instead induces the lineage commitment of the stem cells.

Three growth factors, insulin and insulin-like growth factors, namely insulin-like growth factor-I (IGF-I), also called somatomedin-C, insulin-like growth factor-II (IGF-II), also called myogenic stimulating activity, have been shown to be potent stimulators of skeletal muscle cell growth and differentiation in cultured myosatellite cells and myogenic lineage-committed stem cells by Ewton and Florini, Dev. Biol. 83:31-39 (1981); Florini et al., J. Biol. Chem. 261:16509-16515 (1986); Sejersen et al., Proc. Natl. Acad. Sci. 83:6844-6848 (1986).

Several *in vivo* studies have employed basic-fibroblast growth factor (FGF-2) also named FGF-2, transforming growth factor beta (TGF-beta), and epidermal growth factor (EGF) to stimulate internal wound healing. Buckley et al., Proc. Natl. Acad. Sci. 82:7340-7344 (1985); and Roberts et al., Proc. Natl. Acad. Sci. 83:4167-4171 (1986) noted that administration of FGF-2, TGF-beta, and EGF appeared to promote proliferation of connective tissue elements to form scar tissue and thus aid in wound healing of mammalian skeletal muscle.

In vitro studies have demonstrated the influence of other growth factors on the resultant phenotypic expression in myogenic cultures. For example, Hauschka (Lim and Hauschka, J. Cell Biol. 98:739-747 (1984); and Olwin and Hauschka, Biochemistry 25:3487-3492 (1986))

and co-workers have reported that acidic-fibroblast growth factor (aFGF) and basic-fibroblast growth factor (FGF-2) play a dual role in stimulating myoblast proliferation while directly repressing terminal differentiation, as described by Linkhart et al., Dev. Biol. 86:19-30 (1981).

Unfortunately, the administration of growth factors that inhibit terminal myogenic differentiation, promote myoblast proliferation, and promote fibroblast proliferation and differentiation as a method to promote muscle repair appears to cause an increase in connective tissue scar formation. In muscle, increased scar formation creates decreased physiological function. A decrease in connective tissue scar formation with a compensatory increase in skeletal muscle mass plus revascularization and re-innervation of the tissues is necessary for the restoration of physiological function.

Obesity has been declared a public health hazard by the National Institutes of Health. To combat this health problem, both prophylactic and therapeutic approaches are necessary. For prophylactic purposes, it would be useful to be able to predict and measure a person's propensity or susceptibility to obesity for therapeutic purposes, a means for interfering with the development or differentiation of adipocytes (fat cells) would be of great benefit. Furthermore, as a broader preventative approach to obesity, the ability to limit the fat content of food mammals would be of great importance. None of these desired objectives has been achieved. A weight reduction program cannot efficiently control early-onset obesity once the obesity is apparent. Therefore, a means for early

detection of early-onset obesity is imperative for its prevention.

It is held that excessive ingestion of fat and carbohydrate induces obesity and hyperlipidemia and even develops hypertension and arteriosclerosis ultimately. The desirability of repressing the absorption of fat and carbohydrate and diminishing the accumulation of fat has, therefore, been finding enthusiastic recognition.

Infants, on exposure to excessive ingestion of nutriments, suffer increase of adipocytes and assume the state that may well be called potential obesity. For this reason, it has been reported that the repression of the increase of the number of adipocytes particularly in infants results directly in the prevention of the obesity and the cardiovascular diseases which may well be called complications of obesity in children and consequently in adults.

For the therapy of obesity and hyperlipidemia, such measures as limitation of meal, ingestion of diet food (such as, for example, fibers), and even administration of various medicines have been in vogue. The medicines now in popular use include dextran sulfate which enhances the lipoprotein lipase activity in blood, Nicomol™ that inhibits absorption of lipid, especially cholesterol, and Clofibrate™ and Pravastatin™ which are agents for improving metabolism of lipid, for example.

Unfortunately, the limitation of meal is an agony for persons obliged to pursue this exercise and the administration of such medicines as mentioned above possibly entrains side effects.

Replacement of myofibres by adipose cells, usually with no decrease in muscle volume is defined as muscular steatosis.

Reports concerning muscular steatosis (MSt) in animals is alternatively named progressive primary myopathy, pseudohypertrophic atrophy, lipomatous pseudohypertrophy, interstitial lipomatosis, lipomatous muscular dystrophy, myosclerosis, and hypoplasia or atrophia lipomatosa. MSt is typically found in otherwise healthy cattle and pigs but it also occurs in dogs, sheep, fish, birds and human. Cattle with MSt sometimes have an abnormal gait with hind feet knuckled over and erratic hind limb movements. Affected animals stand normally, but sway or stagger when blindfolded. Lesions are usually bilaterally symmetrical and may appear almost anywhere in the carcass, although longissimus dorsi and hind limb muscles are most frequently affected. Myofibres in affected areas may lack transverse striations and may be fragmented or vacuolated. Remaining myofibres may be hypertrophied, possibly a compensatory mechanism, or atrophied with an increase in number of nuclei. An important feature is that there is inflammatory cells usually invade no evidence of myofibre regeneration in MSt. Areas of MSt. Proliferation, or replacement by adipose cells is a common finding in many myopathies, especially terminal cases, and does not necessarily indicate MSt.

Muscles of meat animals, especially at market weight, contain large numbers of adipose cells that play a major role in the determination of meat quality. Since adipose tissue is normally found intramuscularly, MSt must be viewed in the context of normal intramuscular adipose tissue accumulation. It might be

difficult to distinguish between minimal MSt and maximal accumulation of adipose cells in muscles showing a normal reduction in apparent number of myofibres.

Effects of denervation are very variable but extramuscular denervation usually results in atrophy rather than MSt. MSt probably results from a combination of myofibre damage, motor denervation, autonomic re-innervation and positive caloric balance occurring as a result of intramuscular denervation in a growing animal. The normal intramuscular adipose tissue pattern is retained in areas of MSt, and fatty acid composition is similar to subcutaneous fat with a high amount of unsaturated fatty acids. In naturally occurring MSt, denervation alone would be unlikely to cause a major lesion because of the efficiency of collateral re-innervation by surviving neurons.

It is possible that if intramuscular denervation had occurred in conjunction with muscle rupture, MSt rather than fibrosis would be the result. It may be no coincidence that MSt is typically observed in heavily muscled meat animals in locations (loin and hind limb) that might be damaged by muscular exertion during locomotion or mating. MSt in one area of a muscle might predispose adjacent areas to trauma on subsequent exertion, thus accounting for the considerable tracts of MSt that may occur. The alternative hypothesis to self-inflicted muscle damage is that MSt is due to a defective development of vascular tissues. Although blood vessels with abnormally thick walls and surrounded by connective tissues may be observed in naturally occurring MSt, this might also be related to muscle damage.

With classical histological techniques, intermyofibrillar lipid droplets were distinguished from interstitial granules (mitochondria), and both were found to be more abundant in "dark" myofibres. Lipid staining droplets occur in bovine fetuses and in the atrophic muscles of steers on a submaintenance diet. The abnormal accumulation of lipid droplets may occur in myofibres either as a non-specific response to myofibre degeneration or through a defect in long chain fatty acid utilization. It is possible that lipid accumulation myopathy is an initial cause of MSt.

Traverse muscle sections in myopathic conditions, polygonal cells resembling myofibres have a glassy appearance, are uniformly sudanophilic and are not exhibiting any reaction for beta-hydroxybutyric dehydrogenase, as are adjacent red myofibres. With light microscopy, myofibrillar disruption, lipid infiltration and loss of birefringence can be observed within porcine myofibres. Subsequent electron microscopy shows that changes can be due to dissociation of groups of myofibrils, contraction of sarcomeres, loss of density in the A band and fragmentation of myofibrils. Lipid infiltration is confirmed, and it is also observed that the sarcolemma is detached and thickened and that mitochondria have wasted matrices and fragmented cristae.

Human lipid accumulation myopathies most often involve the red or type 1 myofibres is no coincidence that aerobic metabolism, the typical function of red myofibres, is deficient in SS-lineage pigs and that red myofibres are more easily damaged by ischaemia.

Different molecules, growth hormones, growth factors, lipids and other have been studied in

association with the adipogenesis and myogenesis mechanisms. Among those factors, there is considered acidic and basic fibroblast growth factor (aFGF, FGF-2), transforming growth factor -beta and -alpha (TGF-α and TGF-α), adipocyte differentiating related protein (ADRP), epidermal growth factor (EGF), insulin like growth factor 1 and 2 (IGF-1 and IGF-2), IGF-1 receptor and IGF-2 receptor, platelet derived growth factor - alpha and -beta (PDGF-α and PDGF-β), leptin, and lipoprotein lipase (LPL).

Epidermal growth factor (EGF) is a 6-kDa molecular weight polypeptide found in high concentrations in the submaxillary glands and at lower levels in the circulation. EGF affects the proliferation and the maintenance of functional properties of various mammalian cells *in vitro* (13-14). Animal experiments involving either injection of EGF, injection of antibodies specific for EGF, or removal of the major source of EGF by sialoadenectomy, have shown that EGF played a physiological role on the maintenance of several tissue functions *in vivo*.

IGF-I and IGF-II are growth factors that have related amino acid sequence and structure, with each polypeptide having a molecular weight of approximately 7.5 kilodaltons (kDa). IGF-I mediates the major effects of growth hormone, and thus is the primary mediator of growth after birth. IGF-I has also been implicated in the actions of various other growth factors, since treatment of cells with such growth factors leads to increased production of IGF-I. In contrast, IGF-II is believed to have a major role in fetal growth. Both IGF-I and IGF-II have insulin-like activities (hence their names), and are mitogenic (stimulate cell

division) and/or are trophic (promote recovery/survival) for cells in neural, muscular, reproductive, skeletal and other tissues.

Unlike most growth factors, IGFs are present in substantial quantity in the circulation, but only a very small fraction of this IGF is free in the circulation or in other body fluids. Most circulating IGF is bound to the IGF-binding protein IGFBP-3. IGF-I may be measured in blood serum to diagnose abnormal growth-related conditions, e.g., pituitary gigantism, acromegaly, dwarfism, various growth hormone deficiencies, and the like. Although IGF-I is produced in many tissues, most circulating IGF-I is believed to be synthesized in the liver.

Almost all IGF circulates in a non-covalently associated ternary complex composed of IGF-I or IGF-II, IGFBP-3, and a larger protein subunit termed the acid labile subunit (ALS). The IGF/IGFBP-3/ALS ternary complex is composed of equimolar amounts of each of the three components. ALS has no direct IGF binding activity and appears to bind only to the IGF/IGFBP-3 binary complex. The IGF/IGFBP-3/ALS ternary complex has a molecular weight of approximately 150 kDa. This ternary complex is thought to function in the circulation "as a reservoir and a buffer for IGF-I and IGF-II preventing rapid changes in the concentration of free IGF.

One other of these, the Insulin-Like Growth Factor-I Receptor (IGF-IR) is a member of the tyrosine kinase family of signal transducing molecules. The IGF-IR is activated by the ligands IGF-I, IGF-II and insulin at supra-physiological concentrations, and plays an important role in the development, growth, and

survival of normal cells. Over-expression of the IGF-IR leads to the transformation of fibroblasts and conversely, IGF-IR null fibroblasts are refractory to transformation by a number of oncogenes. Fibroblasts from IGF-IR null mice have been used to demonstrate a requirement for the IGF-IR in transformation, and also to map domains in the receptor essential for the proliferative and transformation function of the IGF-IR. Specifically, the C-terminal region of the IGF-IR is required for the transformation function. Receptors, which are truncated at amino acid 1229 fail to transform fibroblasts derived from IGF-IR, null mice, but retain full proliferative activity.

PDGF is considered to be a principal growth-regulatory molecule responsible for smooth muscle cell proliferation. For instance, PDGF, as measured by mRNA analysis as well as *in situ* staining using an antibody against PDGF, was found within macrophages of all stages of lesion development in both human and nonhuman primate atherosclerosis. PDGF was found in both non-foam cells and lipid rich macrophage foam cells. These data are consistent with PDGF playing a critical role in the atherosclerosis disease process. In addition, analysis of advanced human lesions examined by atherectomy catheter indicates that atherosclerotic and restenotic lesions contain high levels of PDGF as measured by *in situ* hybridization.

Human transforming growth factor-beta (TGF-beta) has been isolated from human blood platelets and placenta and purified to essential homogeneity using sequential gel filtration cation-exchange chromatography and high performance liquid chromatography. The purified protein has been

characterized as having a molecular weight of 25,000 daltons and composed of 2 sub-units of 12,500 daltons each held together by disulfide bonds. The molecular weight, sub-unit structure and amino acid composition of the purified protein differed from that of platelet derived growth factor.

TGF-beta has also been purified from platelets or conditioned media utilizing acid ethanol extraction, cation-exchange separation on the extract, and hydrophobic separations on the active fractions to obtain a homogenous preparation. The purified product is said to be useful in wound healing and tissue repair.

TGF-beta has also been prepared utilizing recombinant DNA, wherein the cloned human gene coding for TGF-beta was inserted into eukaryotic cell lines for expression. The protein product was said to be useful in promoting anchorage-dependent or independent growth in cell culture.

The idea that FGF-2 antagonists may have useful medicinal applications is not new. FGF-2 is now known to play a key role in the development of smooth-muscle cell lesions following vascular injury. Overexpression of FGF-2 (and other members of the FGF family) is correlated with many malignant disorders (Takahashi et al. (1990) Proc. Natl. Acad. Sci. U.S.A. 87:5710). Neutralizing anti-FGF-2 antibodies have been found to suppress solid tumor growth *in vivo* by inhibiting tumor-linked angiogenesis (Hori et al. (1991) Cancer Res. 51:6180). Notable in this regard is the recent therapeutic examination of suramin, a polysulfated naphthalene derivative with known antiprotozoal activity, as an anti-tumor agent. Suramin is believed

to inhibit the activity of FGF-2 through binding in the polyanion binding site and disrupting interaction of the growth factor with its receptor (Middaugh et al. (1992) Biochemistry 31:9016). In addition to having a number of undesirable side effects and substantial toxicity, suramin is known to interact with several other heparin-binding growth factors, which makes linking of its beneficial therapeutic effects to specific drug-protein interactions difficult. Anti-angiogenic properties of certain heparin preparations have also been observed (Folkman et al. (1983) Science 221:719; Crum et al. (1985) Science 230:1375) and these effects are probably based at least in part on their ability to interfere with FGF-2 signaling. While the specific heparin fraction that contributes to FGF-2 binding is now partially elucidated, a typical heparin preparation is heterogeneous with respect to size, degree of sulfation and iduronic acid content. Additionally, heparin also affects many enzymes and growth factors. Basic FGF is thought to regulate myogenesis during muscle development and regeneration *in vivo*. The increase percentage of muscle fibers containing the donor gene produced by the addition of FGF-2 may seem surprising since FGF-2 was reported to inhibit differentiation of myoblasts *in vitro*. Basic FGF is, however, one of many growth factors, which are liberated following muscle damage. These factors, all together, certainly increase myoblast proliferation and eventually muscle repairs. It has been also observed that following two days incubation with FGF-2 of primary myoblast cultures, myoblast fusion occurred within a few days after removal of FGF-2. The inhibition by FGF-2 on myoblast fusion is therefore not

irreversible. Basic FGF is already at an increased level in mdx muscle, therefore it is not surprising that direct intramuscular injection did not increase the fusion of the donor myoblasts with the host fibers. In fact, FGF-2 injected directly in the muscle probably stimulates the proliferation of the host as well as the donor myoblasts and therefore does not favor the donor myoblasts. On the contrary, preliminary stimulation by FGF-2 of the donor myoblasts in culture may favor these myoblasts to proliferate more and eventually participate more to muscle regeneration than the host myoblasts. Although FGF-2 stimulates the fibroblasts, a result, which could pose an inconvenience to primary myoblast cultures, the 48 hours incubation of myoblast primary culture with FGF-2, did not adversely affect the transplantation results. In fact, to the contrary, it improved them. If primary myoblast cultures were made fibroblast-free by sub-cloning, it would be envisageable to precondition the donor's myoblasts for a longer time, thereby increasing the number of cells to be transplanted from a relatively small biopsy.

In the capillary bed of the peripheral circulatory system, the enzyme lipoprotein lipase hydrolyzes and removes most of the triglycerides from the chylomicron. The lipoprotein that remains, now rich in cholesterol esters and potentially atherogenic, is called a chylomicron remnant. This postprandial lipoprotein is then removed from the circulation by the liver.

Other products or metabolic agents can be discussed, as such superoxide dismutase, carnitine, creatine, vitamin E, and lipids.

The discovery of mutations to Cu,Zn superoxide dismutase in a subset of familial amyotrophic lateral sclerosis(ALS) cases has raised hopes for understanding the selective vulnerability of motor neurons as well as the pathogenesis of the remaining 98% of ALS cases not related to superoxide dismutase mutations.

Neurofilaments give axons their structural integrity and define axonal diameter. Neurofilaments are composed of three subunits identified as light (NF-L), medium (NF-M) and heavy (NF-H) which assemble in a 6:2:1 ratio to form long macromolecular filaments. Consequently, NF-L is more abundant than the other two subunits in neurons. NF-L is capable of homologous assembly whereas NF-M and NF-H are not competent to assemble in the absence of NF-L. Each neurofilament subunit consists of conserved head and rod domains and a more variable acidic tail domain. The rod domains are principally composed of alpha helixes, which wrap around each other to form a superhelix of parallel coiled coils.

Amyotrophic lateral sclerosis is a fatal neurodegenerative disease characterized by the selective loss of motor neurons and accompanying loss of voluntary muscular function. ALS typically begins as weakness in one limb during middle adult life and progresses via contiguous groups of motor neurons to ultimately result in paralysis and death within 3-5 years. Ninety percent of ALS cases are sporadic with no identifiable genetic or environmental risk factors. A familial inheritance pattern has been observed in the remaining 10% of ALS cases and one-fifth of those result from dominant missense mutations to the antioxidant enzyme copper, zinc superoxide dismutase

(Cu,Zn superoxide dismutase). Early histopathological changes in ALS include abnormal accumulations of neurofilaments and other cytoskeletal proteins in the cell soma as well as within proximal axonal swellings. The clinical course and histopathology of sporadic and familial forms of ALS are similar, providing hope that understanding superoxide dismutase-associated ALS was illuminate the pathogenesis of sporadic ALS.

L-carnitine serves two major functions. It is best known for its role in facilitating entry of long-chain fatty acids into mitochondria for utilization in energy-generating processes. Long-chain fatty acids, as coenzyme A esters, are trans-esterified to L-carnitine in a reaction catalyzed by carnitine palmitoyltransferase I of the mitochondrial outer membrane. Long-chain acylcarnitine esters enter into mitochondria via a specific carrier, carnitine-acylcarnitine translocase. On the matrix side of the inner mitochondrial membrane the long-chain fatty acid is transesterified to intramitochondrial coenzyme A, catalyzed by carnitine palmitoyltransferase II. Carnitine may exit the mitochondrion as such or as a short-chain acylcarnitine ester, via the translocase. This function of carnitine is obligatory: long-chain fatty acids cannot enter mitochondria independent of translocation as an ester of carnitine.

L-carnitine also facilitates removal from mitochondria of short-chain and medium-chain fatty acids that accumulate as a result of normal and abnormal metabolism. Short- and medium-chain acids, as acyl-CoA esters arising from β-oxidation and other mitochondrial processes, are trans-esterified to carnitine by the action of carnitine acetyltransferase.

The acylcarnitine esters subsequently are transported out of mitochondria by the carnitine acylcarnitine translocase. This pathway provides a means to regenerate intramitochondrial free coenzyme A under conditions where short-chain acyl-CoA esters are produced at a rate faster than they can be utilized.

Pharmacological administration of L-carnitine reduces the mortality and metabolic consequences associated with acute ammonium intoxication in mice. The mechanism associated with this effect may have two components: L-carnitine administration normalizes the redox state of the brain (perhaps by increasing availability of β-hydroxybutyrate to the brain), and it increases the rate of urea synthesis in the liver. At least part of the protective effect of L-carnitine is associated with flux through the carnitine acyltransferases, as inhibition of these enzymes by DL-aminocarnitine, acetyl-DL-aminocarnitine, or palmitoyl-DL-animocarnitine enhances toxicity of acute ammonium administration. Carnitine administration may have significant benefit in patients with disorders of ammonia metabolism, including urea cycle defects, chronic valproic acid therapy, liver failure, organic acidemias, and Reye's syndrome.

It is known that propionyl-L-carnitine protects the ischemic heart from reperfusion injury, perhaps by scavenging free radicals or by preventing their formation by chelating iron necessary for generation of hydroxyl radicals. Long-chain acylcarnitine esters also participate in turnover and repair of erythrocyte membrane phospholipids, independent of ATP hydrolysis. It has been speculated that carnitine and its esters protect cells from oxidative damage, both by inhibiting

free-radical propagation and by contributing to repair of oxidized membranes phospholipids. These processes may occur in many cell types, but may be particularly important in cardiac and other red muscle.

In poultry supplemented diet, it is not yet clear if the carnitine and its derivatives have an effect on feed intake, body and abdominal fat weight or on carcass or liver lipid levels.

Vitamin E acts to prevent the production of peroxide lipid as peroxide of an unsaturated fatty acid that is considered to be a material cause of the aging phenomenon. It has also a function of reinforcing blood vessels and activating the bloodstream, provides an anti-stress effect, and is a very important nutrient for human beings and other animals.

On the other hand, in stockbreeding, marine culturing or pet breeding, the problems of aging, reduced disease resistance, stress generation, decreased hatchability, deteriorated egg quality or meat quality, propagation disorder or mastitis, or reduction in the number of somatic cells in milk affect these animals, and a solution of these problems has hitherto been keenly demanded.

In the breeding of useful mammals including livestock animals such as cattle, pigs and horses, and pets such as dogs and cats, and experimental animals such as rats, mice and guinea pigs, reproduction is efficient because these animals are useful for human beings. As the breeding density increases, the acceleration of aging, reduced disease resistance, stress generation, accelerated oxidation of meat foods, deteriorated meat quality such as the blackening of meat foods, and propagation disorder occur more often.

Propagation disorder is caused by premature birth, reduction of conception ratio, ovulatory retardation, embryo death, a weakened estrous symptom or reduced production of progesterone.

Poultry such as domestic fowl, quail and turkey under overcrowded breeding conditions suffer from reduced disease resistance, stress generation, deteriorated meat quality and propagation disorder, and additionally, reduced egg quality in the case of egg layers. In order to overcome these problems, various vitamins, including vitamin E and derivatives thereof, and minerals have been conventionally added individually or in combination to the drinking water or feed and then fed to poultry.

Creatine occurs in muscle and nervous tissue (especially in the CNS), and in the form of its secondary metabolite, phosphocreatine, represents an energy reserve for muscle and brain. In the nervous and cardiac muscle tissue creatine appears to have a prophylactic and therapeutic effect in cases of ischemia resulting for instance from infarcts or pre- or perinatal conditions of oxygen deficit.

Creatine is not only an endogenous substance and a valuable food supplement but also has valuable therapeutic properties. It has been known for over a hundred years as a muscular substance and serves as a source of energy for the muscle. It was shown in a series of scientific studies that the intake of creatine can lead to an increase in muscular tissue and muscular performance.

There are also scientific findings that indicate that the pancreas releases more insulin under the influence of creatine. Insulin promotes the uptake of

glucose and amino acids by muscle cells and stimulates protein synthesis. Insulin also lowers the rate of protein catabolism.

The prophylactic, therapeutic or dietetic use of creatine in the most varied of application forms (oral, intravenous etc.) necessitates good bioavailability, which in turn means high solubility in water. This requirement is not sufficiently fulfilled in the case of creatine, which, as an amino-acid derivative, is present in the form of an internal salt.

None of the molecule mentioned above, as mature factor or as genetic marker, was considered as involved in the muscular steatosis metabolisms. None of the references disclosed above disclose or suggest the measurement of MSMFs to establish the health status regarding the steatosis, and their use for the treating or alleviating the symptoms of associated disorders. Further, none of the cited references disclose or suggest the administration MSMF alone or in combinations for treating or alleviating the symptoms of the muscular steatosis.

It would be highly desirable to be provided with a new method of modulating factors responsible of modulation of the steatosis status in human and animals. It is to this activity, and its applications in the modulation of steatosis through measurements of MSMF, selecting individuals regarding results of measurements, and administering MSMF to individuals if desired that the present invention be directed.

SUMMARY OF THE INVENTION

One object of the present invention is to provide a method for prognosis or diagnosis of muscular

steatosis based on the level of muscular steatosis-modulating factor (MSMF) in a human or animal, comprising the steps of measuring level of at least one MSMF in a biological sample of a patient, and comparing the patient MSMF level with the MSMF level of a healthy human or animal, wherein a statistically significant difference indicate predisposition or occurrence of steatosis.

According to an object of the present invention, the method is addressed to animals selected from the group consisting of mammal, and avian, and most particularly, the animals selected from the group consisting of porcine, bovine, ovine, caprine, chicken, turkey, horse, goat, canine, and feline.

Identifying differential expression of selected MSMF genes may perform the measurement of MSMF.

The MSMF may be selected from the group consisting of growth hormone, growth factor, cytokine, growth factor receptor, growth hormone receptor, cytokine receptor, and lipid.

The measured MSMF may also be measure of IGF1, IGF2, aFGF, FGF-2, ADRP, IGF1R, PDGFα, TGFβ, TGFα, LPL, EGF, PDGFβ, Leptin, superoxide dismutase, carnitine, creatine kinase, vitamin, or a combination thereof.

MSMF may be measured in a biological sample that may be derived from a sample of blood, serum, plasma, biopsy, fat, salivary, feces, or urine.

Also, measuring level of at least one peptide, a precursor, a metabolite, or a messenger RNA of MSMF performs the method according to the invention.

In accordance with another object, there is provided a method for the treatment of muscular steatosis in a human or animal patient, which comprises

regulating MSMF level substantially equivalent to that of healthy patient by administrating an agonist, an antagonist of MSMF, or a combination thereof.

The treatment of steatosis may be performed by administration of an agonist of MSMF that is at least one MSMF.

The agonist may be a recombinant, a precursor, a non-mature, an analog, a purified, or a physiologically active fragment of at least one MSMF.

Also, the agonist of MSMF may be an abzyme.

In another embodiment of the invention, the treatment of steatosis may be performed by administration of antagonists of MSMF that are MSMFs.

Among embodiments of the present invention, the antagonist of MSMF used to treat the steatosis may be an abzyme.

According to the present invention, the antagonist may be selected from the group consisting of antibody, anti-MSMF messenger RNA, MSMF RNA ligand, MSMF-specific antisense primer, anti-MSMF receptor, and mutant MSMF.

Another particular embodiment of the present invention is that agonist, antagonist, or combination thereof may be administered by introducing at least one expression vector into the human or animal.

The expression vector may further be within at least one cell, and the cell is then introduced into a human or an animal to allow the *in vivo* synthesis of at least one agonist or antagonist of MSMFmay be administered systemically, orally, or intravenously, using an implant, or a slow delivery system.

According to the method of the invention, the muscular steatosis may be caused in an animal for

increasing fat content in food, which comprises the step of administrating to the animal a sufficient amount of at least one agonist, antagonist of MSMF, or a combination thereof.

Another object of the invention is that steatosis is caused by administration of agonist of MSMF that is at least one MSMF, or antagonist of MSMF that is at least one inhibitor of MSMF.

The steatosis may be caused by administration of an agonist, or an antagonist selected respectively from the group consisting of recombinant, precursor, non mature, analog, purified, and a physiologically active fragment of at least one MSMF, or an inhibitor of recombinant, precursor, non mature, analog, purified, and a physiologically active fragment of at least one MSMF.

The antagonist according to the method of causing the steatosis may be selected from the group of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, a synthetic antisense, a natural antisense, and a mutant MSMF.

The messenger RNA or anti-MSMF messenger RNA may be complementary or corresponding to nucleic acid sequences selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305, or a fragment thereof.

Agonist of MSMF, antagonist of MSMF, or combination thereof may be administered by introducing at least one expression vector into the human or animal, wherein the expression vector may be within at least one cell, and the cell is then introduced into a host human or animal.

Another object of the method of causing the steatosis, is the administration of an agonist or antagonist systemically, orally, or intravenously, using an implant, or a slow delivery system.

In accordance with the present invention, there is provided a compound of the group of MSMF for treating or inducing muscular steatosis in a human or an animal patient.

The compound may be selected from the group consisting of agonist, antagonist of MSMF, or a combination thereof.

In accordance with the present invention, there is provided a use of a compound of the group of MSMF in the manufacture of a medicament for treating or inducing muscular steatosis.

In accordance with the present invention, there is provided a pharmaceutical composition for use in treating or causing muscular steatosis comprising a therapeutically acceptable and effective amount of a compound of the group of MSMF in association with a pharmaceutically acceptable carrier.

For the purpose of the present invention the following terms are defined below.

The term "growth factor" as used herein refers to any receptor ligand that causes a cell growth and/or cell proliferation effect. Examples of growth factors are well known in the art. Fibroblast growth factor (FGF) is one example of a growth factor.

The term "recombinant product" as used herein refers to the product produced from a DNA sequence that comprises at least a portion of the MSMF. This product can be a peptide, a polypeptide, a protein, an enzyme, an antibody, an antibody fragment, a polypeptide that

binds to a regulatory element (a term described hereafter), a structural protein, an RNA molecule, and/or a abzyme, for example. These products are well defined in the art.

By "expression vector" is meant any nucleic acid molecule or virus containing regulatory elements or reporter genes for the purpose of expression of a given gene in prokaryotic or eukaryotic cells or organisms. Such vectors can be introduced into a cell by means of molecular biological techniques. After introduction into the cell, this nucleic acid can exist extrachromosomally or become integrated into the host genome.

The term "abzyme" as used herein means antibody directed enzyme prodrug. Abzymes are defined as antibodies directed against appropriate transition state analogues that can catalyse a variety of chemical transformations and metabolic reactions. Furthermore, murine antibodies can be "humanized" using existing technologies to reduce their immunogenicity in patients. Thus a humanized catalytic antibody (abzyme) could be prepared which replaces an enzyme and thus leads to a treatment system that combines both specificity and low immunogenicity.

Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. Although methods and materials described herein can be used to practice the present invention, other similar or equivalent methods and material known to one skilled in the art can also be used. All publications, patent applications, patents, and other references mentioned herein are

incorporated by reference in their entirety. In case of conflict, the present specification, including definitions, was control. The materials, methods, and examples described herein are illustrative only and not intended to be limiting.

BRIEF DESCRIPTION OF THE DRAWING

Fig. 1 illustrates level expression (RT-PCR) of studied genes for muscular fat as steatosis markers in healthy pigs and pigs having high degree of steatosis.

DETAILED DESCRIPTION OF THE INVENTION

In accordance with the present invention, there is provided a new method of modulating levels of muscular steatosis-modulating factors (MSMF), measuring body levels of human and animal with naturally occurring or administered MSMF. As shown in examples provided below, measurement of steatosis based on measured levels of MSMF could be made by comparison to levels measured in a steatosis-free control group or background level measured in a particular subject. The measurement can be confirm by correlation of the assay results with other aforementioned methods of disease known to those skilled in the arts, such as photonic microscopy. Among MSMFs of the present invention, there is considered acidic and basic fibroblast growth factor (aFGF, FGF-2), transforming growth factor -beta and -alpha (TGF-β and TGF-α), adipocyte differentiating related protein (ADRP), epidermal growth factor (EGF), insulin like growth factor 1 and 2 (IGF-1 and IGF-2), IGF-1 receptor and IGF-2 receptor, platelet derived growth factor -alpha and -beta (PDGF-α and PDGF-β), leptin, and lipoprotein lipase (LPL). Lipids that can

be considered in establishing the steatosis status for monitoring MSMF of an individual are myristic acid (C14:0), myristoleic acid (C14:1), pentadecanoic acid (C15:0), pentadecenoic acid (C15:1), palmitic acid (C16:0), palmitoleic acid (C16:1), margaric acid (C17:0), margaroleic acid (C17:1),stearic acid (C18:0), oleic acid (C18:1), linoleic acid (C18:2), linoleinic acid (C18:3), arachidic acid (C20:0), eicosenoic acid (C20:1), eicosadienoic acid (C20:2), eicosatrienoic acid (C20:3), arachidonic acid (C20:4), beneic acid (C22:0), erucic acid (C22:1), docosandienoic acid (C22:2), docosahexaenoic acid (C22:6), and lignoceric acid (C24:0).

In another embodiment of the invention, there is provided a method of detecting and quantifying MSMF in biological samples using an antibody specific for MSMF and, where appropriate, a detectable-labeled antigen (MSMF). The invention is to provide methods for diagnosis of diseases that are correlated to the loss and/or synthesis of muscular tissue as indicated by levels of MSMF or lipids detected in a biological sample. A method of identifying differential expression of selected genes is used to diagnosing the muscular steatosis in human and animals.

In another embodiment of the present invention, there is provided measure levels of FGF-2, IGF1R and LPL alone or in combinations as genetic markers in determining sings of muscular steatosis in a human or an animal.

In another embodiment of the present invention, there is provided a method for determining the steatosis status by using reverse transcription and polymerase chain reaction to amplify small amounts of

MSMF mRNA. DNA-DNA hybridization can then be used to confirm the specificity of the amplified product as being MSMF.

This technique provides a method for measuring the quantities of MSMF. The ability to demonstrate the quantities of MSMF by RT-PCR and then confirm the specificity of the amplification by DNA hybridization has significant implications in clarifying MSMF role in muscular steatosis. In practice it is rendered possible a direct testing of biological samples for the presence of MSMF that may be conducted.

The invention further provides screening methods to identify concentration of molecules that can be involved in modulating steatosis. In one aspect, such screening methods comprise competitive binding assays wherein the ability of a putative modulating molecule to bind to MSMF is measured in the presence of a suitably labeled C-terminal peptide.

In one embodiment of the invention, MSMF are measured to selected animals having specific characteristics regarding targeted MSMF. Those animals selected to be exempted of any sing of steatosis may be considered as genetically qualified for establishing lineages. For example, farm production of porcine, bovine, chicken, turkey, ovine and caprine should profit of genetically selected founders in the establishment of healthy herds through the present invention.

In another embodiment, the invention is directed to the selection of stably genetically selected individuals having naturally different status of muscular steatosis, to serve as founder animals for the establishment of specific herds having these

properties. It is well recognized that lipids and ratios of muscular lipids can influence the texture and taste of the meat. In some cases, higher level of muscular steatosis may be suitable to have animal with more fatty muscles.

Alternatively, agonists of positively inducing MSMF, or MSMF itself can be administered to an animal to induce steatosis for the same aim mentioned above. Agonists of MSMF, for example, can be a MSMF itself or combinations of MSMF, or abzymes that mimic binding sites of MSMF to their respective cell receptors, or that mimic enzymatic activity of the MSMF. Antagonists of MSMF, can be administered to reestablish a healthy state of an individual affected by the muscular steatosis.

Yet additional embodiments of the invention comprise the use of MSMF and lipid compositions of the invention as screening markers for molecules which modulate or are involved in the establishment of muscular steatosis. Such embodiments include, but are not limited to, assays which measure the ability of a putative MSMF to compete with other peptides and proteins (including, but not limited to, other peptide sequences of the MSMF itself), which are identified to act specifically to the receptor compositions of the invention, in order to modulate the steatotic state of an individual.

The immunoassay procedure used is preferably quantitative so that levels of MSMF in a patient with disease may be distinguished from normal levels which may be present in healthy individual and/or background levels measured in the patient. Competitive and sandwich assays on a solid phase using detectable

labels (direct or indirect) are, therefore, preferred. The label provided a detectable signal indicative of binding of antibody to the MSMF antigen. The antibody or antigen may be labeled with any label known in the art to provide a detectable signal, including radioisotopes, enzymes, fluorescent molecules, chemiluminescent molecules, bioluminescent molecules and colloidal gold. Of the known assay procedures, radioimmunoassay (RIA) is most preferred for its sensitivity. A radioisotope had, therefore, is the preferred label.

It has been appreciated by those skilled in the art that, although not necessarily as sensitive as an RIA, assay procedures using labels other than radioisotopes have certain advantages and may, therefore, be employed as alternatives to the preferred RIA format. For example, an enzyme-linked immunosorbent assay (ELISA) may be readily automated using an ELISA micrometer plate reader and reagents who are readily available in many research and clinical laboratories. Fluorescent, chemiluminescent and bioluminescent labels have the advantage of being visually detectable, though they are not as useful as radioisotopes to quantify the amount of antigen bound by antibody in the assay.

Molecules identified by means of the screening assays of the invention has been candidates as useful therapeutic products for the *in vivo*, *ex vivo* or *in vitro* treatment of target tissues alone or in combination with suitable carriers and excipients. Such compositions and their use comprise additional embodiments of the invention.

In yet another embodiment of the invention, there is provided expression vectors containing genetic

sequences, hosts transformed with such expression vectors, and methods for producing the recombinant MSMF compositions of the invention.

The present invention is further directed to methods for inducing or suppressing apoptosis in the cells and/or tissues of individuals suffering from disorders characterized by inappropriate cell proliferation or survival, or by inappropriate cell death, respectively. Disorders characterized by inappropriate cell proliferation and/or survival include, for example, inflammatory conditions, cancer, including lymphomas, genotypic tumors, etc. Disorders characterized by inappropriate cell death include, for example, autoimmune diseases, acquired immunodeficiency disease (AIDS), cell death due to radiation therapy or chemotherapy, acute hypoxic injury, etc.

In another embodiment of the present invention, there is provided a method for identification of the hormones and other factors, the steatosis-modulating factors, controlling the balance between muscular and adipocyte proliferation and differentiation, that is very important for modulating normal adipose and muscular tissue development and for designing approaches for screening individuals having normal and abnormal states of adipose tissue development, such as obesity for example.

In yet another embodiment of the present invention, there is provided a method of treating an individual with MSMF in an individual that need such treatment, comprising the step of administering to the individual a pharmacologically effective dose of one MSMF aforementioned or combinations thereof.

The present invention was more readily understood by referring to the following examples, which are given to illustrate the invention rather than to limit its scope.

EXAMPLE I

MUSCLE-FAT IMBALANCEMENT IN GROWING PIGS

In swine, specific ham muscles such as semi-tendineous biceps femoris and semi-membranous are sometimes abnormally infiltrated with fat, leading to a severe muscle degeneration. We suspected different genetic factors to be implicated in the development of this muscular-fat imbalance.

A total of 113 among 676 pigs were selected in a local farm. Healthy and steatotic animals were directly selected at the farm by using ALOKA apparatus performing bi-directional ultrasonic reading. After slaughter, 80 pigs were retained following a visual quotation of the left semi-tendineous muscle and according to a design with muscular fat infiltration (0 or severe).

Methods of analysis

Vitamin E: The concentrations of plasmatic and hepatic Vitamin E were determined through an home made adapted method described by Bieri et al (Bieri, J.G. et al.,Am. J. Clin. Nutri.(1979) vol. 32; 2143-2149)on HPLC (High Pressure Liquid Chromatography). Results are presented in Table 1.

L-carnitine: Using a modified approaches (radio-isotopical) developed by McGarry and Foster ((1976) J. Lipid Res. 17:277-281), concentrations of L-carnitine contained in semi-tendineous muscles and plasma were determined. Results are shown in Table 1.

Creatine kinase: The analysis of quantities of creatine kinase in plasma has been performed with a commercial (Sigma Diagnostics #C2527, St-Louis, MO) enzymatic kit allowing to measure variations of NADH at optical density of 340 nm, that is a direct indication of the creatine kinase activity. Results are presented in Table 1.

Selenium: Quantities of selenium in blood was directly measured by the assessment of the activity of glutathion peroxidase. The level of activity is determined by measuring oxidative rates of NADPH by spectrophotometry at 340 nm of optical density. Results are presented in Table 1.

Superoxide dismutase: The activity of superoxide-dismutase in muscles was performed with a commercial kit(Calbiochem, #574600, San Diego, CA) allowing to measure variation in levels of oxidation of a chromophore agent by optical density at 525nm. Results are shown in Table 1.

TABLE 1

SUMMARY OF STATISTICS OF BLOOD AND TISSUE ANALYSIS

	SEX		STEATOSIS			P		
Variables	M	F	Affected	Normal	SEM	Sex	Steatosis	S/ST
CARNITINE MUSCLE (nmoles/mg protein)	22.01	21.32	21.52	21.81	0.644	0.451	0.753	0.574
CARNITINE PLASMA (umoles /liter)	4.67	4.42	4.88	4.21	0.213	0.408	0.029	0.656
CREATINE KINASE PLASMA (Unit/liter)	382.0	418.4	360.9	439.6	49.625	0.613	0.276	0.536
SELENIUM PLASMA (nmoles/mg protein)	17.002	17.724	17.527	17.199	0.769	0.508	0.764	0.558
SELENIUM BLOOD (umoles/min./gram Hb)	231.323	222.356	228.020	225.658	9.019	0.484	0.854	0.456
SUPEROXIDE DISMUTASE MUSCLE (Unit/mg protein)	18.66	19.42	18.41	19.68	0.284	0.062	0.002	0.894
VITAMIN E LIVER (ug/gram liver)	20.886	20.243	22.691	18.438	0.859	0.600	0.001	0.279
VITAMINE E PLASMA (ug /ml)	1.188	1.371	1.268	1.291	0.064	0.050	0.803	0.957

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/□n; (n = 40)P, probability; significant when < 0.05 (shaded)

Patterns of muscular and sub-cutaneous fatty acids were determined on gas phase chromatography. Results are shown in Tables 2, 3 and 4.

TABLE 2

BACKFAT AND MUSCLE TISSUE FATTY ACIDS (%) IN NORMAL AND AFFECTED PIGS

	SEX		STEATOSIS			P		
Tissue Fat	M	F	Affected	Normal	SEM	Sex	Steatosis	S/ST
FAT MONO	48.66		49.62	49.21	0.485	0.040	0.560	0.018
FAT POLY	17.14		16.34	17.57	0.492	0.605	0.092	0.971
FAT SATURED	34.20		34.04	33.22	0.526	0.141	0.283	0.029
MUSCLE MONO	47.58		48.51	46.29	1.136	0.819	0.182	0.034
MUSCLE POLY	14.39		11.92	18.33	0.727	0.170	0.001	0.105
MUSCLE SATURED	38.01		39.56	35.35	0.956	0.422	0.005	0.182

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/$\sqrt{n}$; (n = 12) P, probability; significant when < 0.05 (shaded).

TABLE 3

BACKFAT FATTY ACID COMPOSITION (%) IN NORMAL AND AFFECTED PIGS

		SEX		STEATOSIS			P		
FATTY ACIDS	TISSUE	M	F	Affected	Normal	SEM	Sex	Steatosis	S/ST
C14:0	FAT	1.54	1.34	1.34	1.54	0.061	0.025	0.031	0.001
C14:1	FAT	0.08	0.06	0.05	0.10	0.015	0.341	0.041	0.296
C15:0	FAT	0.15	0.11	0.10	0.16	0.022	0.172	0.060	0.180
C15:1	FAT	0.08	0.07	0.05	0.09	0.010	0.368	0.024	0.252
C16:0	FAT	22.09	20.80	21.28	21.60	0.448	0.056	0.618	0.006
C16:1	FAT	2.89	2.77	2.57	3.09	0.087	0.324	0.001	0.007
C17:0	FAT	0.42	0.37	0.38	0.41	0.022	0.068	0.266	0.108
C17:1	FAT	0.36	0.36	0.34	0.39	0.020	0.863	0.090	0.807
C18:0	FAT	9.37	9.88	10.41	8.83	0.194	0.079	0.001	0.020
C18:1	FAT	42.87	44.36	43.46	43.77	0.510	0.053	0.669	0.136
C18:2	FAT	14.47	13.97	13.72	14.73	0.444	0.434	0.124	0.985
C18:3	FAT	1.29	1.29	1.21	1.36	0.051	0.972	0.045	0.567
C20:0	FAT	0.22	0.24	0.24	0.22	0.011	0.239	0.295	0.070
C20:1	FAT	2.23	2.39	3.05	1.57	0.585	0.848	0.089	0.231
C20:2	FAT	0.61	0.70	0.67	0.65	0.028	0.039	0.644	0.053
C20:3	FAT	0.17	0.16	0.15	0.18	0.012	0.650	0.128	0.781
C20:4	FAT	0.26	0.32	0.29	0.29	0.022	0.058	0.792	0.096
C22:0	FAT	0.15	0.16	0.13	0.17	0.039	0.830	0.453	0.306
C22:1	FAT	0.14	0.17	0.10	0.21	0.028	0.461	0.015	0.506
C22:2	FAT	0.16	0.17	0.14	0.20	0.020	0.849	0.044	0.450
C22:6	FAT	0.17	0.16	0.17	0.17	0.026	0.795	0.925	0.026
C24:0	FAT	0.24	0.17	0.15	0.27	0.033	0.097	0.023	0.494

Legend:M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/$\sqrt{n}$; (n = 12)P, probability; significant when < 0.05 (shaded).

TABLE 4

MUSCLE FATTY ACID COMPOSITION (%) IN NORMAL AND AFFECTED PIGS

		SEX		STEATOSIS			P		
FATTY ACID	TISSUE	M	F	Affected	Normal	SEM	Sex	Steatosis	S/ST
C14:0	MUSCLE	1.76	1.36	1.84	1.28	0.118	0.028	0.003	0.216
C14:1	MUSCLE	0.15	0.13	0.09	0.18	0.026	0.583	0.025	0.101
C15:0	MUSCLE	0.23	0.13	0.17	0.19	0.052	0.158	0.731	0.186
C15:1	MUSCLE	0.53	0.63	0.27	0.89	0.074	0.390	0.001	0.026
C16:0	MUSCLE	24.17	22.69	25.42	21.44	0.764	0.185	0.001	0.197
C16:1	MUSCLE	3.45	3.08	3.43	3.11	0.128	0.053	0.095	0.736
C17:0	MUSCLE	0.33	0.31	0.28	0.36	0.021	0.576	0.014	0.081
C17:1	MUSCLE	0.28	0.28	0.27	0.29	0.015	0.839	0.266	0.195
C18:0	MUSCLE	10.60	11.47	11.26	10.81	0.330	0.077	0.348	0.634
C18:1	MUSCLE	41.45	41.44	42.87	40.02	1.217	0.995	0.114	0.065
C18:2	MUSCLE	10.77	11.99	9.31	13.45	0.525	0.116	0.001	0.340
C18:3	MUSCLE	0.88	0.90	0.82	0.96	0.046	0.775	0.044	0.675
C20:0	MUSCLE	0.29	0.31	0.26	0.34	0.042	0.693	0.206	0.357
C20:1	MUSCLE	1.44	1.51	1.42	1.53	0.387	0.909	0.845	0.171
C20:2	MUSCLE	0.54	0.55	0.51	0.59	0.037	0.915	0.151	0.044
C20:3	MUSCLE	0.33	0.32	0.22	0.43	0.046	0.930	0.004	0.050
C20:4	MUSCLE	1.24	1.62	0.60	2.26	0.203	0.201	0.001	0.046
C22:0	MUSCLE	0.21	0.22	0.12	0.31	0.034	0.931	0.001	0.045
C22:1	MUSCLE	0.27	0.15	0.17	0.26	0.045	0.078	0.161	0.290
C22:2	MUSCLE	0.32	0.28	0.19	0.41	0.043	0.445	0.002	0.360
C22:6	MUSCLE	0.32	0.21	0.28	0.25	0.049	0.138	0.621	0.066
C24:0	MUSCLE	0.41	0.41	0.21	0.61	0.074	0.953	0.001	0.236

Legend: MUSCLE, affected part of the muscle; M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/$\sqrt{n}$; (n = 12) P, probability; significant when < 0.05 (shaded).

PCR amplification of messenger RNA (RT-PCR):

Separation of intramuscular fat and muscle fibers: In order to amplify the transcripts that correspond only to intramuscular fat or to muscle fibers, pieces of semi-tendineous were taken from the freezer and immediately placed under a binocular. Separation of intramuscular fat from muscle fibers was performed manually using a thin needle. Samples of intramuscular fat and muscle fibers were immediately transferred to tubes filled with 2 ml Trizol™ reagent (Gibco-BRL, Bethesda, MD). These tubes were kept at -80°C until needed.

RNA extraction: RNA was extracted in Trizol™ reagent according to the manufacturer's instructions. The extracted RNA was dissolved in water and quantified spectrophotometrically at 260 nm. RNA aliquots were electrophoresed in a 1% agarose gel to verify their integrity.

Quantitative RT-PCR: For all samples, 5μg of RNA was treated with 3 units of Dnase I (Amplification grade #8068-015, Gibco-BRL, Bethesda, MD) to remove contaminating genomic DNA. First strand cDNA was synthesized from 5 μg of total RNA from either intramuscular fat or muscle fibers, using a SuperScript™ II preamplification system for first strand cDNA synthesis (Gibco BRL, Burlington, ON) and 500 ng of oligo (dT) 12-18 primer in a total reaction volume of 50 μl. An aliquot of 2 μl of the reverse transcriptase product was subjected to PCR amplification.

The following RT-PCR were performed for intramuscular fat: ADRP, EGF, IGF1, IGF2 IGF1R, IGF2R, PDGFα, PDGFβ, TGFβ, aFGF, FGF-2, TGFα, leptin, LPL and

MEF2 as a control. In muscle fibers the following RT-PCR were performed: EGF, IGF1, IGF2 IGF1R, IGF2R, PDGFα, PDGFβ, TGFβ, aFGF, FGF-2, TGFα, LPL and leptin as a control.

For each gene, a 100 μl PCR reaction contained either 15 pmol or 30 pmol of upstream and downstream primers (see Table 5), 200 μM dNTPs, 1.5 mM $MgCl_2$ and 2.5 units of Taq™ polymerase in 1X Taq™ polymerase buffer (Amersham Pharmacia Biotech, Baie d'Urfée, QC). Each gene's PCR profile was performed using a Programmable Thermal Controller PTC-100™ (MJ Research Inc., Watertown, MA). The PCR amplifications consisted of an initial denaturation step at 94°C for 2 min, followed by variable cycle numbers of denaturation at 94°C for 1 min (see Table 5), annealing at different temperature for 1 min (see Table5), extension at 72°C for 1 min and a final extension at 72°C for 5 min. Pig glyceraldehyde-3-phosphate dehydrogenase (GAPDH) was also used as an internal control of amplification. For GAPDH PCR amplification, the 100 μl PCR reaction contained 30 pmol of upstream and 30 pmol of downstream primers (Table 5), 200 μl dNTPs, 1.5 mM $MgCl_2$ and 2.5 units of Taq™ polymerase in 1X polymerase buffer. The GAPDH PCR profile consisted of an initial denaturation step at 94°C for 2 min, followed by 20 cycles of denaturation at 94°C for 1 min, annealing at 68°C for 1 min, extension at 72°C for 1 min and a final extension at 72°C for 5 min.

TABLE 5

PCR Conditions

Sondes	Primer Site	Primer Sequence (5' - 3')	Position (pb)	size fragments	Genebank no	cycle numbers	Concen-tration oligo (pmoles)	Hybrida-tion Tempera-ture
IGF 1	Forward	5' - GCA CAT CAC ATC CTC TTC GCA TC - 3'	15-37	338	PIGGFIIA	25	30	70 C
	Reverse	5' - TGT ACT TCC TTC TGA GCC TTG GG - 3'	331-353					
IGF 2	Forward	5' - GGT GGA CAC CCT CCA GTT TGT C - 3'	481-502	354	SSIGF2	24	15	70 C
	Reverse	5' - GTG ACG CTT GGC CTC TCT GAC - 3'	815-835					
IGF1R	Forward	5' - CGC ATG TGC TGG CAG TAC AAC C - 3'	19-40	307	SSU15445	25	30	70 C
	Reverse	5' - TGC GCG TAA GGC TGT CTC TCG - 3'	306-326					
IGF2R	Forward	5' - GGC CAA GTC CAA CTG CCG CTA C - 3'	1-22	381	SSU58650	25	30	70 C
	Reverse	5' - ACT CAT CCG CTG GAA GCC CG - 3'	363-382					
aFGF	Forward	5' - TGG CTG AAG GCG AAA TCA CAA CC - 3'	17-39	414	SSAFGFRNA	25	30	70 C
	Reverse	5' - TGA GTC CGA GGA CCG CGT TTG - 3'	411-431					
bFGF	Forward	5' - ACG GAG GCT TCT TCC TGC GC - 3'	138-157	283	SSBFGF	24	15	70 C
	Reverse	5' - CGT TCG TTT CAG TGC CAC GTA CC - 3'	399-421					
EGF	Forward	5' - ATC GGTACC GCA TGC TGA AGC CCT CAT CAC TGG - 3'	2607-2630	899	HSEGFRER	25	15	65 C
	Reverse	5' - ATC TCTAGA GCG CAG CTC CCA CCA TTT CAA GTC - 3'	3482-3505					

Sondes	Primer Site	Primer Sequence (5' - 3')	Position (pb)	size fragments	Genebank no	cycle numbers	Concen-tration oligo (pmoles)	Hybrida-tion Tempera-ture
TGFa	Forward	5' - CTT GTT GGC CGT GTG CCA GGC - 3'	54-74	411	SSTGFA	27	15	70 C
	Reverse	5' - AGC GGT CCT TCC CTT CAG GAG GG - 3'	443-465					
TGFb	Forward	5' - AAG CGG AAG CGC ATC GAG G - 3'	570-588	995	GGTGFB1	25	30	70 C
	Reverse	5' -GCG GCC CAC GTA GTA CAC G - 3'	1547-1565					
PDGFa	Forward	5' - CCC GCG AGG TGA TCG AGA G - 3'	464-482	408	HSPDGFAR	24	15	70 C
	Reverse	5' - GGC TTC TTC CTG ACG TAT TCC AC - 3'	850-872					
PDGFb	Forward	5' - CTC TGC TGC TAC CTG CGT CTG GTC - 3'	1013-1036	483	HSPDGFB	24	15	70 C
	Reverse	5' - GCG TCA CCG TGG CCT TCT TAA AG - 3'	1474-1496					
ADRP	Forward	5' - ATC AAGCTT AAC AGA GCG TGG TGA TGA GAG TGG C - 3'	27-50	1173	MMADRPCO D	27	15	70 C
	Reverse	5' - ATC TCTAGA CCT ACC AGC CAG TTG AGA GGC G - 3'	1181-1200					
LEPTIN (ob)	Forward	5' - GTC GAT TCC TGT GGC TTT GGC CC- 3'	74-96	409	AF026976	24	15	70 C
	Reverse	5' - CTC CGT GGA GTA GAG GGA GGC TTC C - 3'	459-483					
LEPTIN (ob) (control)	Forward	5' - GTC GAT TCC TGT GGC TTT GGC CC- 3'	74-96	409	AF026976	35	15	70 C
	Reverse	5' - CTC CGT GGA GTA GAG GGA GGC TTC C - 3'	459-483					
MEF2 (control)	Forward	5' - GCA TGA TGC CTC CAC TAT CGG AG - 3'	1262-1284	535	HSMEF2	35	30	70 C
	Reverse	5' - AGA GCT GCT CAG ACT GTC CAC AGG - 3'	1774-1797					

Sondes	Primer Site	Primer Sequence (5' - 3')	Position (pb)	size fragments	Genebank no	cycle numbers	Concen-tration oligo (pmoles)	Hybrida-tion Tempera-ture
GAPDH	Forward	5' - CTG GCA AAG TGG ACA TTG TCG CC - 3'	28-50	571	SSU48832	20	30	68 C
	Reverse	5' - CTT GGC AGC GCC GGT AGA AGC - 3'	579-599					
Lipoproteine Lipase (LPL)	Forward	5' - GAG GGA ACC GGA TTC CAA CG - 3'	475-494	709	SSLPLRNA	24	30	65 C
	Reverse	5' - AGG GCA TCT GAG CAC GAG TC - 3'	1165-1184					

The amplified PCR fragments were electrophoresed on a 2.5% agarose gel and stained with ethidium bromide. Pictures of the resulting gels were taken on Polaroid film # 55. Films were then scanned using a densitometer (BIO-RAD™ Imaging Densitometer Model GS-670 Bio-Rad Laboratories Led., Mississauga, ON). The relative optical density of the transcripts is expressed in arbitrary optical units. A ratio of the optical density of each transcript, standardized using the GAPDH transcript, was calculated before statistical analyses were performed to correct for possible differences in gel loading. The results are shown in Tables 6, 7, 8 and in Figure 1 representing the RT-PCR analysis of FGF-2 gene expression in muscle fibers of healthy (normal) and steatotic (affected) pigs, and where is amplified mRNA specific to the genes GAPDH (fragment of 571 bp) as control, and FGF-2 (fragment of 282 bp) as differential MSMF marker.

TABLE 6

EXPRESSION LEVELS (RT-PCR) OF DIFFERENT CANDIDATE GENES IN INTRAMUSCULAR FAT OF NORMAL AND AFFECTED PIGS

	SEX		STEATOSIS			P		
GENE	M	F	Affected	Normal	SEM	Sex	Steatosis	S/ST
ADRP	44.86	58.75	47.09	56.52	6.160	0.127	0.292	0.340
EGF	67.24	56.87	47.61	76.50	6.107	0.244	0.003	0.059
IGF1	55.10	69.78	65.19	59.69	4.686	0.039	0.417	0.518
IGF1R	59.24	64.79	71.78	52.24	3.354	0.256	0.001	0.830
IGF2	45.70	51.78	34.09	63.38	6.826	0.536	0.007	0.931
IGF2R	76.01	65.97	75.38	66.60	6.644	0.298	0.361	0.258
PDGFα	76.44	72.06	74.01	74.48	4.689	0.516	0.944	0.697
PDGFβ	65.28	53.92	56.82	62.38	7.238	0.280	0.593	0.163
TGFβ	58.62	68.10	55.30	71.42	7.473	0.381	0.143	0.945
aFGF	69.74	59.74	56.22	73.26	5.128	0.183	0.029	0.198
FGF-2	37.79	51.46	53.38	35.87	3.198	0.007	0.001	0.001
TGFα	45.07	63.72	66.52	42.27	3.350	0.001	0.001	0.010
Leptin	53.50	64.15	68.81	48.83	3.231	0.030	0.001	0.040
LPL	76.23	60.19	65.92	70.49	5.389	0.048	0.556	0.281

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/$\sqrt{n}$;P, probability; significant when < 0.05 (shaded). Values in this table correspond to relative optical density that were adjusted with respect to GAPDH transcript. For each gene, the highest expression value was considered 100% and transcripts of all pigs were adjusted relative to this pig.

TABLE 7

EXPRESSION LEVELS (RT-PCR) OF DIFFERENT CANDIDATE GENES IN MUSCLE FIBERS OF NORMAL AND AFFECTED PIGS

	SEX		STEATOSIS			P		
GENE	M	F	Affected	Normal	SEM	Sex	Steatosis	S/ST
FGF-2	56.32	50.21	36.72	69.81	5.167	0.413	0.001	0.960
EGF	64.94	65.38	69.84	60.49	6.317	0.962	0.308	0.171
IGF1	66.76	61.17	64.91	63.02	3.371	0.254	0.695	0.278
IGF1R	85.96	78.93	80.29	84.60	2.259	0.040	0.192	0.564
IGF2	72.96	49.09	55.68	66.38	6.215	0.013	0.238	0.720
IGF2R	75.98	57.28	73.43	59.83	5.418	0.024	0.091	0.706
PDGFα	68.76	51.01	66.70	53.07	3.959	0.005	0.024	0.254
PDGFβ	69.38	63.33	57.01	75.70	3.983	0.295	0.003	0.230
TGFα	49.81	48.36	47.25	50.92	5.900	0.864	0.665	0.491
aFGF	67.98	57.86	64.64	61.21	8.418	0.406	0.776	0.809
TGFβ	54.31	51.18	46.97	58.52	4.912	0.657	0.112	0.009
LPL	64.66	66.60	60.68	70.59	3.155	0.669	0.038	0.090

Legend: M, males; F, females; S/ST, Sex*Steatosis; SEM, standard deviation/$\sqrt{n}$; P, probability; significant when < 0.05 (shaded). Values in this table correspond to relative optical density that were adjusted with respect to GAPDH transcript. For each gene, the highest expression value was considered 100% and transcripts of all pigs were adjusted relative to this pig.

TABLE 8

INTRAMUSCULAR LEVELS OF FGF-2, TGFA AND LEPTIN.

	normal females	normal males	affected females	affected males
INTRAMUSCULAR FAT				
FGF-2	34.20	37.54	68.71	38.05
TGFα	44.86	39.68	82.59	50.46
Leptin	49.13	48.54	79.17	58.46
MUSCLE FIBERS				
TGFβ	67.06	49.97	35.29	58.65

Values in this table correspond to relative optical density that were adjusted with respect to GAPDH transcript. For each gene, the highest expression value was considered 100% and transcripts of all pigs were adjusted relative to this pig.

EXAMPLE II

IDENTIFICATION OF MOLECULAR MARKERS

Experimental method

Animal selection and sampling : 48 castrated commercial pigs from a same producer were used. These pigs were allocated according to a two-by-two factorial design in complete blocks with, as principal effects, the level of steatosis (24 pigs with steatosis levels ^{3} 4; 24 normal pigs) and the adiposity level (24 fat pigs with P_2 $\geq$22mm between third and fourth ribs; 24 lean pigs with P_2 $\leq$19mm). The animals were selected at the slaughterhouse the morning of the day of slaughter using an ultrasound machine. For each selected pig, blood was drawn just prior to their slaughter. At slaughter, the entire left semi-tendinosus muscle was

taken, the fat trimmed off and then cut transversally in order to evaluate the steatosis level. Wrongly identified pigs were immediately replaced by new pigs on the same day of slaughter. The two hams, the loin, the flank, the liver and a sample of backfat were taken for further biochemical and genetic analysis.

Validation of results obtained : This part of the example has allowed us to confirm the results obtained in the preceding example. More precisely, we have performed the following analyses:

Measure of vitamin E : Vitamin E in the liver was performed by HPLC (high performance liquid chromatography) according to the protocol of Bieri et al. (1979, Am. J. Clin. Nutri. **32** :2143-2149). First, the lipids were extracted using organic solvents (hexane or heptane) and the analysis of the tocopherols was done on a C18 column (inverse phase) which permits a fine separation of the different tocopherols.

Total carnitine levels: It was determined in plasma and in muscle, according to the radio-isotopic method developed by McGarry and Foster (1976, J. Lipid Res., **17** :277-281).

All carcass and meat quality analyses, including pH at 45 minutes and ultimate pH was performed on all three studied muscles (semi-tendinosus, semi-membranosus and biceps femoris), and the loin and flank; allocation of the visual steatosis and marbling levels; determination of the percentage of dry matter of the loin, the flank and the three ham muscles; the percentage of lipids in the loin, the flank and the semi-tendinosus; measures of the backfat and muscle thickness as well as the muscle surface at the site of carcass classification (between the 3rd and 4th last

ribs); water retention by the loin, the flank and the three ham muscles; the levels of glucose in the lost water; total protein content. The incidence of PSE meat was evaluated by measuring the color on the ventral side of the *longissimus dorsi* in the middle of the loin as well as on the three ham muscles studied. Digital images were taken of the transversal cuts of the studied muscles.

Measure of sub-cutaneous and intra-muscular fatty acids by gas chromatography : The intra-muscular lipids (semi-tendinosus muscle) were extracted with chloroform-methanol, according to the method of Folch et al. (1957, J. Biol. Chem. **226** :592-596). Total fatty acids was esterified according to the method of AOAC Official Method 991.39 (1995) and then analyzed by gas chromatography.

Expression levels of the bFGF gene (basic growth factor of fibroblasts) in intra-muscular fat and in muscle fibers : For these analyses, we begun by manually separating the muscle fibers from the intra-muscular fat, under a binocular. This separation enabled us to evaluate the expression of bFGF specifically in intra-muscular fat and in muscle fibers. Once the separation has been completed, total RNA extracted and RT-PCR (Reverse Transcription-Polymerase Chain Reaction) analyses was performed for the bFGF gene. The RT-PCR analyses permitted us to quantify this gene's expression (i.e. the quantity of RNA expressed by this particular gene) and to verify if there are any differences between normal and affected pigs.

Comprehension of the mechanisms involved in the development of steatosis at the cellular and tissular

level : This aspect of the example permitted us to point out the mechanism of the development of steatosis.

Measure of bound carnitine: In the preceding example, no significant difference was observed in the levels of total carnitine in muscle. However, a significant increase was observed in plasmatic carnitine in pigs affected by steatosis. These results gave us no information concerning the proportion of carnitine bound to fatty acids and free carnitine. This permitted us to verify if there is indeed a problem with the association of carnitine to long-chain fatty acids.

Determination of the levels of vitamin E in the muscles studied: In the previous example, we observed that steatosis-affected pigs accumulate more vitamin E in their liver than do normal pigs. It is therefore necessary to measure the levels of vitamin E in the ham muscles in order to verify if there is less vitamin E in affected muscles, which could entail a higher oxidative stress to these muscles.

Measure of the peroxydation levels of fatty acids: The decrease of certain fatty acids (C15:1, C18:2 and C20:4) observed in the preceding example could be due to a higher peroxydation activity in affected muscles. In order to verify this, these levels of peroxydation in the semi-tendinosus muscle were measured according to the method of Witte et al. (1970, J. Food. Sci. 35 :582-585).

Identification of new, easily measurable metabolic or genetic factors : This section permitted us to identify other factors, such as fatty acids, proteins or genes which t permit us to rapidly

discriminate between affected and non-affected pigs, by way of simple fat tissue biopsies or blood samples.

Measure of the fatty acids present in red blood cells: This part of the example permitted us to identify if there are differences in the fatty acid profiles of affected pigs. The identification of differences in one or more fatty acids in red blood cells permitted us to use the blood of animals to determine their steatosis levels by simple gas chromatography analysis.

Identification of genes involved in the development of steatosis: To identify these genes, we have used a new molecular biology technique called "subtractive libraries". This technique has permitted us to compare two populations of messenger RNA (expression levels of a gene) in order to obtain clones of genes that are expressed strongly in one population (steatosis-affected pigs) and weakly, or not at all, in the other (normal pigs) and vice-versa. In order to help us achieve this aspect of the example, we have used two kits commercialized by CLONTECH: "PCR-Select Differential Screening Kit" and "PCR-Select cDNA Subtraction Kit". These analyses were performed on sub-cutaneous fat, intra-muscular fat and muscle fibers.

Results

Results of the second experiment are summarized in tables 9 to 16 respectively.

TABLE 9

CARNITINE ANALYSIS IN DIFFERENT TISSUES

		Normal		Affected		SEM	P		
Variable	Tissue	Fat	Lean	Fat	Lean		Adipo-sity	Stea-tosis	A/St
Carnitine (total) (nmoles/mg protein)	Muscle	58.11	57.12	62.06	55.20	3.35	0.217	0.747	0.354
Carnitine (free) (nmoles/mg protein)	Muscle	39.23	37.14	39.87	35.02	2.73	0.183	0.774	0.592
Carnitine (bound) (nmoles/mg protein)	Muscle	18.88	19.98	22.19	20.18	1.78	0.785	0.300	0.357
Carnitine (total) (umoles/liter)	Plasma	25.98	30.78	36.91	41.19	4.88	0.325	0.024	0.954
Carnitine (free) (umoles/liter)	Plasma	16.98	21.32	25.33	25.18	2.64	0.400	0.017	0.368
Carnitine (bound) (umoles/liter)	Plasma	9.00	9.47	11.58	16.01	2.56	0.312	0.063	0.412

legend: Fat, backfat ≥22 mm; Lean, backfat ≤19 mm; A/St, adiposity*steatosis; SEM, standard deviation/$\sqrt{n}$ (n=12); P, probability; significant when $p<0.05$ (shaded).

TABLE 10
VITAMIN E ANALYSIS IN DIFFERENT TISSUES

		Normal		Affected		SEM	P		
Variable	Tissue	Fat	Lean	Fat	Lean		Adipo-sity	Stea-tosis	A/St
α-tocopherol (ug/g tissue)	liver	2.14	2.04	3.81	3.55	0.147	0.244	0.000*	0.594
γ-tocopherol (ug/g tissue)	liver	0.17	0.17	0.15	0.17	0.018	0.399	0.516	0.525
α-tocopherol (ug/g tissue)	muscle	0.86	0.96	1.16	1.05	0.078	0.975	0.022	0.215
γ-tocopherol (ug/g tissue)	muscle	0.21	0.25	0.26	0.24	0.022	0.581	0.564	0.241
α-tocopherol (ug/g tissue)	muscle fiber	1.02	1.01	0.44	1.17	0.135	0.012	0.140	0.012
γ-tocopherol (ug/g tissue)	muscle fiber	0.20	0.22	0.12	0.21	0.020	0.015	0.047	0.115

Legend: Fat, backfat ≥22 mm; Lean, backfat ≤19 mm; A/St, adiposity*steatosis; SEM, standard deviation/√n (n=12); P, probability; significant when p<0.05 (shaded). 0.000*,p ≤0.00001.

TABLE 11

PEROXIDATION LEVELS OF INTRA-MUSCULAR FAT BY THE THIOBARBITURIC ACID (TBA) METHOD (WHITE ZONE OF THE SEMI-TENDINOSUS MUSCLE)

	Normal		Affected		SEM	P		
Variable	Fat	Lean	Fat	Lean		Adipo-sity	Stea-tosis	A/St
TBAJ0	0.144	0.155	0.128	0.179	0.018	0.051	0.924	0.180
TBAJ4	0.177	0.212	0.217	0.241	0.022	0.151	0.123	0.845
TBAJ9	0.201	0.221	0.318	0.288	0.391	0.891	0.015	0.489

TABLE 12
RED ZONE OF THE SEMI-TENDINOSUS MUSCLE

	Normal		Affected		SEM	P		
Variable	Fat	Lean	Fat	Lean		Adipo-sity	Stea-tosis	A/St
TBAJ0	0.242	0.220	0.164	0.188	0.032	0.743	0.147	0.254
TBAJ4	0.270	0.289	0.280	0.265	0.027	0.742	0.907	0.796
TBAJ9	0.295	0.289	0.342	0.340	0.033	0.791	0.076	0.836

Legend: Fat, backfat ≥22 mm; Lean, backfat ≤19 mm; A/St, adiposity*steatosis; SEM, standard deviation/$\sqrt{n}$ (n=12); TBA, thiobarbituric acid; J0, J4, J9, days 0, 4 and 9 respectively; P, probability; significant when $p<0.05$ (shaded).

TABLE 13
EXPRESSION LEVELS (RT-PCR) OF bFGF IN NORMAL AND STEATOSIS-AFFECTED PIGS

	Normal		Affected		SEM	P		
Variable	Fat	Lean	Fat	Lean		Adipo-sity	Stea-tosis	A/St
bFGF muscle fibers (ng ratio)	0.790	0.956	0.572	0.606	0.13	0.403	0.022	0.582
bFGF intra-muscular fat (ng ratio)	1.259	1.175	1.671	2.135	0.24	0.386	0.003	0.214

Legend: Fat, backfat ≥22 mm; Lean, backfat ≤19 mm; A/St, adiposity*steatosis; SEM, standard deviation/$\sqrt{n}$ (n=12); P, probability; significant when $p<0.05$ (shaded). The values in the table represent the quantity in ng calculated according to a standard curve. The relative values are standardized according to the pig with the highest level of mRNA expression.

TABLE 14

ERYTHROCYTE FATTY ACID COMPOSITION (%) IN NORMAL AND AFFECTED PIGS

	Normal		Affected		SEM	P		
Fatty acid	Fat	Lean	Fat	Lean		Adiposity	Steatosis	A/St
C14:0	0.22	0.23	0.21	0.22	0.012	0.374	0.651	0.830
C15:0	0.16	0.17	0.13	0.14	0.015	0.444	0.062	0.640
C16:0	21.05	20.95	20.66	20.99	0.382	0.772	0.657	0.583
C16:1	0.56	0.60	0.55	0.55	0.022	0.361	0.227	0.449
C17:0	0.78	0.76	0.66	0.75	0.040	0.447	0.132	0.163
C17:1	0.18	0.18	0.18	0.19	0.013	0.868	0.937	0.847
C18:0	16.46	17.18	15.92	16.67	0.339	0.041	0.138	0.962
C18:1n9t	0.97	0.99	0.93	0.96	0.026	0.306	0.227	0.889
C18:1n9c	21.46	20.87	19.70	21.63	0.906	0.472	0.594	0.181
C18:1c11	0.87	0.92	0.80	0.86	0.021	0.010	0.003	0.647
C18:2n6c	31.38	30.91	34.31	30.73	1.306	0.137	0.311	0.251
C18:3n3	0.31	0.34	0.36	0.36	0.027	0.607	0.221	0.648
C20:0	0.13	0.11	0.11	0.13	0.007	0.526	0.838	0.023
C20:1	0.22	0.20	0.22	0.19	0.017	0.179	0.556	0.697
C20:2	0.31	0.30	0.26	0.29	0.009	0.310	0.003	0.016
C20:3n6	0.51	0.46	0.42	0.46	0.025	0.995	0.103	0.114
C20:4n6	4.31	4.70	4.47	4.74	0.187	0.088	0.610	0.765
C22:0	0.12	0.13	0.12	0.14	0.014	0.285	0.914	0.757

Legend: Fat, backfat ≥22 mm; Lean, backfat ≤19 mm; A/St, adiposity*steatosis; SEM, standard deviation/$\sqrt{n}$ (n=12); P, probability; significant when $p<0.05$ (shaded).

TABLE 15
BACKFAT FATTY ACID COMPOSITION (%) IN NORMAL AND AFFECTED PIGS

	Normal		Affected		SEM	P		
Fatty acid	Fat	Lean	Fat	Lean		Adiposity	Steatosis	A/St
C14:0	1.65	1.55	1.60	1.51	0.033	0.008	0.227	0.861
C16:0	27.73	25.86	27.62	25.92	0.324	0.000*	0.954	0.792
C16:1	2.63	2.62	2.41	2.41	0.075	0.936	0.009	0.911
C17:0	0.28	0.29	0.25	0.29	0.013	0.101	0.167	0.452
C17:1	0.28	0.29	0.23	0.27	0.013	0.073	0.035	0.289
C18:0	12.59	12.00	14.60	13.78	0.219	0.003	0.000*	0.596
C18:1n9t	0.63	0.65	0.64	0.70	0.033	0.249	0.371	0.671
C18:1n9c	29.57	29.10	28.81	28.95	0.342	0.644	0.196	0.386
C18:1c11	1.73	1.74	1.61	1.65	0.034	0.525	0.004	0.677
C18:2n6t	0.13	0.14	0.12	0.13	0.003	0.005	0.029	0.211
C18:2n6c	19.39	22.23	18.81	21.00	0.425	0.000*	0.044	0.457
C18:3n3	0.79	0.91	0.73	0.84	0.024	0.00002	0.016	0.883
C20:0	0.19	0.15	0.21	0.18	0.011	0.005	0.050	0.662
C20:1	1.13	1.05	1.12	1.04	0.039	0.050	0.822	0.963
C20:2	0.64	0.69	0.62	0.66	0.014	0.003	0.054	0.872
C20:3n6	0.13	0.12	0.11	0.11	0.009	0.664	0.150	0.419
C20:3n3	0.13	0.14	0.12	0.12	0.004	0.043	0.010	0.252
C20:4n6	0.21	0.26	0.21	0.25	0.009	0.00003	0.527	0.479
C21:0	0.18	0.22	0.17	0.19	0.009	0.005	0.017	0.408

Legend: Fat, backfat ≥22 mm; Lean, backfat ≤19 mm; A/St, adiposity*steatosis; SEM, standard deviation/$\sqrt{n}$ (n=12); P, probability; significant when $p<0.05$ (shaded); 0.000*, $p \leq 0.00001$.

TABLE 16
MUSCLE FATTY ACID COMPOSITION (%) IN NORMAL AND AFFECTED PIGS

	Normal		Affected		SEM	P		
Fatty acid	Fat	Lean	Fat	Lean		Adiposity	Steatosis	A/St
C14:0	1.47	1.41	1.67	1.47	0.040	0.002	0.003	0.109
C16:0	28.76	27.74	30.70	28.55	0.313	0.00001	0.0001	0.087
C16:1	3.10	3.10	3.23	2.87	0.144	0.233	0.753	0.227
C17:0	0.21	0.20	0.18	0.21	0.011	0.544	0.259	0.183
C17:1	0.23	0.24	0.20	0.23	0.013	0.087	0.133	0.337
C18:0	14.41	13.70	15.18	14.81	0.315	0.101	0.006	0.595
C18:1n9t	0.77	0.84	0.85	0.84	0.041	0.487	0.346	0.385
C18:1n9c	27.36	27.15	28.46	28.27	0.570	0.734	0.063	0.992
C18:1c11	2.03	2.11	1.97	1.95	0.063	0.657	0.093	0.459
C18:2n6c	17.82	19.22	14.40	17.23	0.565	0.001	0.00003	0.226
C18:3n3	0.55	0.59	0.51	0.56	0.028	0.135	0.317	0.895
C20:0	0.15	0.12	0.18	0.16	0.011	0.024	0.002	0.976
C20:1	0.84	0.86	0.89	0.89	0.032	0.751	0.223	0.713
C20:2	0.42	0.46	0.40	0.45	0.015	0.004	0.323	0.606
C20:3n6	0.25	0.28	0.16	0.20	0.018	0.058	0.00004	0.780
C20:4n6	1.52	1.87	0.90	1.20	0.122	0.013	0.00001	0.849
C21:0	0.11	0.11	0.11	0.11	0.009	0.941	0.840	0.682

Legend: Fat, backfat ≥22 mm; Lean, backfat ≤19 mm; A/St, adiposity*steatosis; SEM, standard deviation/$\sqrt{n}$ (n=12); P, probability; significant when $p<0.05$ (shaded).

In conclusion, the present experiment demonstrates clearly that several MSMF are correlated with the steatotic state in pigs. It has been determined that the muscular superoxide dismutase, and hepatic Vitamin E are correlated with the muscular steatosis. In addition, it can be seen from the present results that fatty acids have a direct relation with the muscular steatosis, as well in sub-cutaneous as muscular samples. Also, from the RT-PCR discrimination performed in fat or muscular samples, it was observed that EGF, IGF1R, IGF2, aFGF, FGF-2, TGFα, PDGFα, PDGFβ, LPL, and the Leptin are each one good markers in determining the steatosis status of animals.

Most particularly, the present invention shows that amplification of selected MSMF, it is to say the Leptin, FGF-2 and IGF1R are particularly accurates for identifying differential genetic expression in diagnosing the steatosis. The FGF-2 allows discrimination of steatotic pigs in 91.67 percent. Combination of factors makes possible to select non-steatotic from steatotic individuals in closed to 99 percents of the cases.

While the invention has been described in connection with specific embodiments thereof, it has been understood that it is capable of further modifications and this application is intended to cover any variations, uses, or adaptations of the invention following, in general, the principles of the invention and including such departures from the present disclosure as come within known or customary practice within the art to which the invention pertains and as may be applied to the essential features herein before set forth, and as follows in the scope of the appended claims.

WHAT IS CLAIMED IS:

1. A method for prognosis or diagnosis of muscular steatosis based on the level of muscular steatosis-modulating factor (MSMF) in a human or animal, which comprises the steps of:

a) measuring level of at least one MSMF in a biological sample of said human or animal, and

b) comparing the level of MSMF measured in the biological sample of said human or animal with the level of MSMF measured in a biological sample of a healthy human or animal, wherein a difference indicates predisposition or occurrence of steatosis.

2. A method according to claim 1, wherein said animal is selected from the group consisting of mammal and avian.

3. A method according to claim 1, wherein said animal is selected from the group consisting of porcine, bovine, ovine, caprine, chicken, turkey, horse, goat, canine, and feline.

4. A method according to claim 1, wherein said measuring of step a) is performed by identifying differential expression of MSMF gene.

5. A method according to claim 4, wherein said MSMF gene comprises a nucleic acid sequence selected from

the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

6. A method according to claim 1, wherein said MSMF is selected from the group consisting of growth hormone, growth factor, cytokine, growth factor receptor, growth hormone receptor, cytokine receptor, and lipid.

7. A method according to claim 1, wherein said MSMF is IGF1, IGF2, αFGF, FGF-2, ADRP, IGF1R, PDGFα, TGFβ, TGFα, LPL, EGF, PDGFβ, Leptin, superoxide dismutase, carnitine, creatine kinase, a vitamin, or a combination thereof.

8. A method according to claim 1, wherein said biological sample is blood, serum, plasma, a biopsy, fat, saliva, feces, or urine.

9. A method according to claim 1, wherein said measuring MSMF of step a) consists of measuring the level of at least one peptide, precursor, metabolite, or a messenger RNA of MSMF.

10. A method according to claim 9, wherein said messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

11. A method according to claim 9, wherein said messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

12. A method for the treatment of muscular steatosis in a human or an animal, which comprises regulating MSMF level substantially equivalent to that of a healthy human or a healthy animal.

13. A method according to claim 12, wherein said regulation is performed by administrating an agonist of MSMF, an antagonist of MSMF, or a combination thereof.

14. A method according to claim 13, wherein said agonist of MSMF is a MSMF.

15. A method according to claim 13, wherein said agonist of MSMF is a recombinant MSMF, a precursor of MSMF, a non-mature MSMF, an analog of MSMF, a purified MSMF, or a physiologically active fragment of at least one MSMF.

16. A method according to claim 13, wherein said agonist of MSMF is an abzyme.

17. A method according to claim 13, wherein said antagonist of MSMF is an inhibitor of MSMF.

18. A method according to claim 13, wherein said antagonist of MSMF is an abzyme.

19. A method according to claim 13, wherein said antagonist of MSMF is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, and a mutant MSMF.

20. A method according to claim 19, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

21. A method according to claim 19, wherein said anti-MSMF messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

22. A method according to claim 13, wherein said agonist of MSMF, antagonist of MSMF, or combination thereof is administered by introducing at least one expression vector into the human or the animal.

23. A method according to claim 22, wherein the expression vector is introduced into at least one cell, and said cell is introduced into the human or the animal.

24. A method according to claim 13, wherein the agonist of MSMF or the antagonist of MSMF is administered systemically, orally, or intravenously, using an implant or a slow delivery system.

25. A method for causing muscular steatosis in an animal for increasing fat content, which comprises the step of administrating to said animal a sufficient amount of at least one agonist of MSMF, an antagonist of MSMF, or a combination thereof, for deregulating MSMF in said animal to a level different from the level of MSMF of a healthy animal.

26. A method according to claim 25, wherein said agonist of MSMF is a MSMF.

27. A method according to claim 25, wherein said agonist of MSMF is selected from the group consisting of recombinant MSMF, precursor of MSMF, non-mature MSMF, analog of MSMF, purified MSMF, and a physiologically active fragment of a MSMF.

28. A method according to claim 27, wherein said agonist of MSMF is an abzyme.

29. A method according to claim 25, wherein said antagonist of MSMF is a MSMF.

30. A method according to claim 25, wherein said antagonist of MSMF is an abzyme.

31. A method according to claim 25, wherein said antagonist is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, a synthetic antisenses, a natural antisenses, and a mutant MSMF.

32. A method according to claim 31, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

33. A method according to claim 31, wherein said anti-MSMF messenger RNA is corresponding to a nucleic

acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

34. A method according to claim 25, wherein said agonist, antagonist, or combination thereof is administered by introducing at least one expression vector into the animal.

35. A method according to claim 34, wherein said expression vector is introduced into at least one cell, and said cell is introduced into said animal.

36. A method according to claim 25, wherein an agonist or antagonist is administered systemically, orally, or intravenously, using an implant or a slow delivery system.

37. A method according to claim 35, wherein said muscular steatosis is caused in said animal by administrating an agonist of MSMF, an antagonist of MSMF, or a combination thereof.

38. A compound of the group of MSMF for the treatment of muscular steatosis in a human or an animal patient.

39. A compound according to claim 38, which is selected from the group consisting of an agonist of MSMF and an antagonist of MSMF, or a combination thereof.

40. A compound according to claim 39, wherein said agonist of MSMF is a MSMF.

41. A compound according to claim 39, wherein said agonist is a recombinant MSMF, a precursor of MSMF, a non-mature MSMF, an analog of MSMF, a purified MSMF, or a physiologically active fragment of a MSMF.

42. A compound according to claim 39, wherein said agonist of MSMF is an abzyme.

43. A compound according to claim 39, wherein said antagonist of MSMF is a MSMF.

44. A compound according to claim 39, wherein said antagonist of MSMF is an abzyme.

45. A compound according to claim 39, wherein said antagonist of MSMF is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, and a mutant MSMF.

46. A method according to claim 45, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

47. A method according to claim 45, wherein said anti-MSMF messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

48. A compound according to claim 39, wherein said agonist of MSMF, antagonist of MSMF or combination

thereof is administered by introducing at least one expression vector into the human or the animal patient.

49. A compound according to claim 48, wherein said expression vector is introduced into at least one cell, and said cell is introduced into said human or said animal patient.

50. A compound according to claim 39, wherein said agonist of MSMF or antagonist of MSMF is administered systemically, orally, or intravenously, using an implant or a slow delivery system.

51. A compound of the group of MSMF for causing muscular steatosis in an animal.

52. A compound according to claim 51, which is selected from the group consisting of an agonist of MSMF and an antagonist of MSMF, or a combination thereof.

53. A compound according to claim 51, wherein said agonist of MSMF is a MSMF.

54. A compound according to claim 52, wherein said agonist of MSMF is a recombinant MSMF, a precursor of MSMF, a non-mature MSMF, an analog of MSMF, a purified MSMF, or a physiologically active fragment of a MSMF.

55. A compound according to claim 52, wherein said agonist of MSMF is an abzyme.

56. A compound according to claim 52, wherein said antagonist of MSMF is a MSMF.

57. A compound according to claim 52, wherein said antagonist of MSMF is an abzyme.

58. A compound according to claim 52, wherein said antagonist of MSMF is selected from the group consisting of an antibody, an anti-MSMF messenger RNA, a MSMF RNA ligand, a MSMF-specific antisense primer, an anti-MSMF receptor, and a mutant MSMF.

59. A compound according to claim 58, wherein said anti-MSMF messenger RNA is complementary to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

60. A compound according to claim 58, wherein said anti-MSMF messenger RNA is corresponding to a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:305 or a fragment thereof.

61. A compound according to claim 52, wherein said agonist of MSMF, antagonist of MSMF or combination thereof is administered by introducing at least one expression vector into the animal.

62. A compound according to claim 61, wherein said expression vector is introduced into at least one cell, and said cell is introduced into said animal.

63. A compound according to claim 52, wherein said agonist of MSMF or antagonist of MSMF is administered

systemically, orally, or intravenously, using an implant or a slow delivery system.

64. Use of a compound as defined in any one of claims 38 to 50 for treating muscular steatosis.

65. Use of a compound as defined in any one of claims 51 to 63 for causing muscular steatosis.

66. Use of a compound of the group of MSMF in the manufacture of a medicament for treating muscular steatosis.

67. Use of a compound as defined in any one of claims 38 to 50 in the manufacture of a medicament for treating muscular steatosis.

68. Use of a compound of the group of MSMF in the manufacture of a medicament for causing muscular steatosis.

69. Use of a compound as defined in any one of claims 51 to 63 in the manufacture of a medicament for inducing muscular steatosis.

70. A pharmaceutical composition comprising a compound as defined in any one of claims 38 to 50 in association with a pharmaceutical acceptable carrier.

71. A pharmaceutical composition for use in the treatment of muscular steatosis comprising a therapeutically acceptable and effective amount of a

compound of the group of MSMF in association with a pharmaceutically acceptable carrier.

72. A pharmaceutical composition for use in causing muscular steatosis comprising a therapeutically acceptable and effective amount of a compound of the group of MSMF in association with a pharmaceutically acceptable carrier.

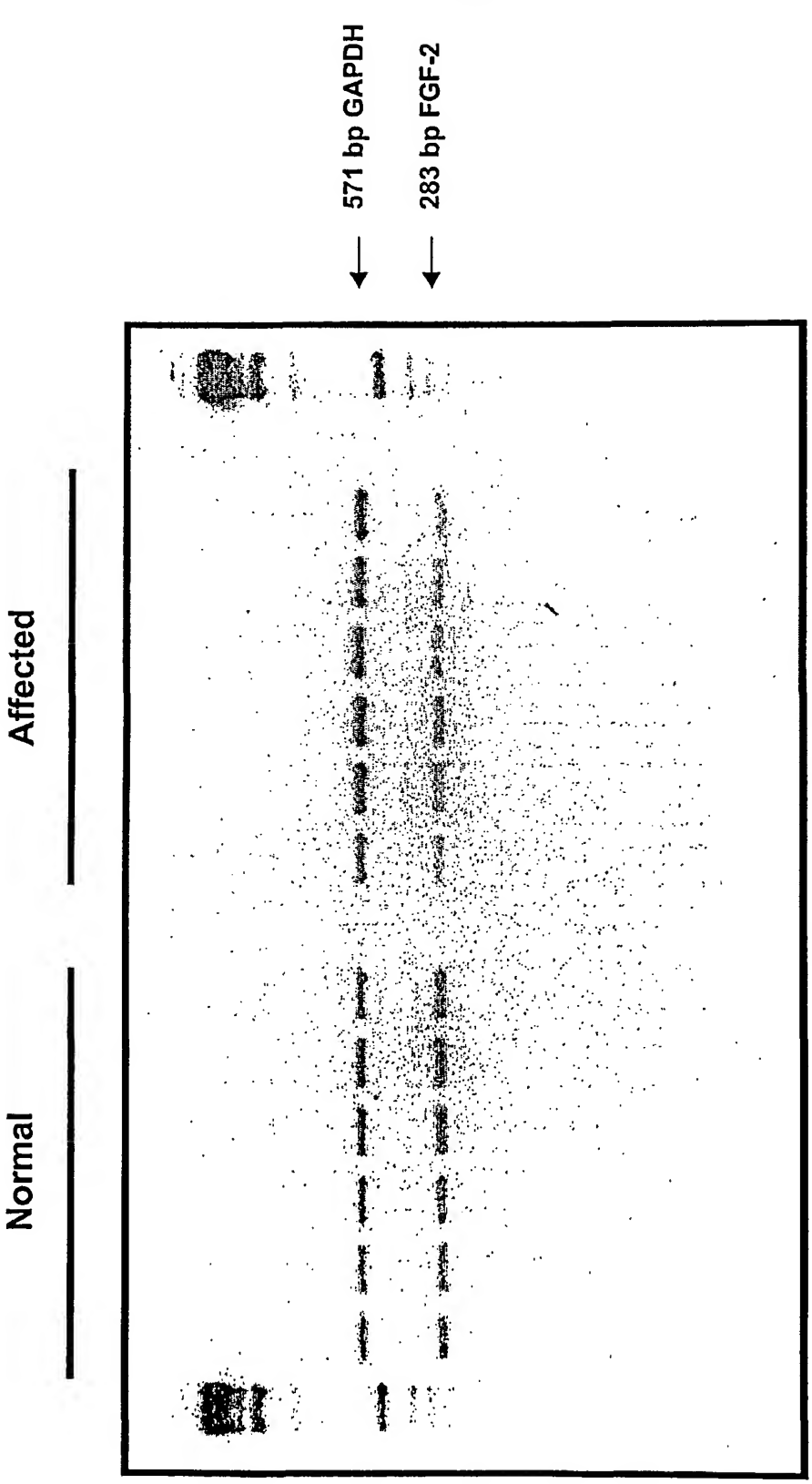

Fig. 1

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cgccagctgg gcgtaatagc gaaaaaggcc cgnaccgatt ggcctttcca acagttgcgc 780
acctggaatg ggcaaatgga cccccctgta acggngcatt anccccgggg ggg 833

<210> 10
<211> 544
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 10
gccnatctat agtaaaaccc agccatgacc cctaacaggg gccctctcag ccctcctaat 60
gacctccggc ctagccatgt gatttcactt ccactccata acgctcctca tactaggcct 120
actaaccaac acactaacca tataccaatg atggcgcgat gtaacacgag aaagcacata 180
ccaaggccac cacacaccac ctgtccaaaa aggccttcga tacgggataa tcctatttat 240
tacctcagaa gtttttttct tcgcaggatt tttctgagcc ttttaccact ccagcctagc 300
ccctaccccc caattaggan gggcactggg cccccaacag ggcatnaccc cggttaattc 360
ccttagaagg tccaactcct aacacattcc gtattactcg catcaggagt attnaatcac 420
ctggagctna ccatatttaa tngaaaanca ncggaaccca attaattaag cactggctaa 480
ttacaattta ctggggncnt nnttcccctt ttacaangct tnaaatacct ggccnggntg 540
gctg 544

<210> 11
<211> 543
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 11
nttgccaggg ctattggttg aatgagtagg ctgatggttt cgataataac tagtatgggg 60
ataaggggtg taggtgtgcc ttgtggtaag aagtgggcta gggcattttt aatcttagag 120
cgaaagccta taatcactgc gcccgctcat aaggggatgg ccatggctag gtttatagat 180
agttgggtgg ttggtgtaaa tgagacctgc ccgggcggcc gctcgaaagc cgaattctgc 240
agatatccat cacactggcn ggccgntcga gcatgcatct agagggccca attcgcccta 300
tagtgagtcg tatacaattc acttggccgt cgtttacaac gtcgtgactg ggaaaaccct 360
gcgttaccca acttaatcgc cttgcagcac ntcccccttt cgccagctgg cgtaataccn 420
aaaaggcccg accgatcgcc cttcccaana gtngcncacc tgattggcaa atggaccccc 480
cttgtaccgg ncnttaaccc cggcggtttg gtggttaccc ccanngtgac cgttacantg 540
cca 543

<210> 12
<211> 626
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence

Muscular steatosis
Porcine

<400> 12
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taccacctac ctccctcacc aaagcccata aaaataaaaa attataacaa accctgagaa 120
ccaaaatgaa cgaaaatctg ttcgcttcat tcattgcccc cacaatccta ggcctacccg 180
ccgcagtacc tgcccgggcg gccgctcgaa agccgaattc tgcagatatc catcacactg 240
gcggccgctc gagcatgcat ctagagggcc caattcgccc tatagtgagt cgtattacaa 300
ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac cctgcgttac ccaacttaat 360
cgccttgcag cacatccccc tttcgccagc tggcgtaata gcgaagaggc ccgaccgatc 420
gcccttccca acagttgcgc agcctgaatg gcnaatggac ncgccctgta ccggcgcatt 480
aancgcggcg gttgtgggng gttacncnca ncgtgaccgg tacacttgcc agngccttac 540
gccggttcct ttgntttctt ccttcctttt tgccagttgc cggtttcccg gaaagcttta 600
aatcggggct ccttagggtc cnatta 626

<210> 13
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 13
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taaacacaaa ctaccaccta cctccctcac caaagcccat aaaaataaaa aattataaca 120
aaccctgaga accaaaatga acgaaaatct gttcgcttca ttcattgccc ccacaatcct 180
aggcctaccc gccgcagtac ctgcccgggc ggtcgctcga aagccgaatt ctgcagatat 240
ccatcacact ggcggccgct cgagcatgca tctagagggc ccaattcgcc ctatagtgag 300
tcgtattaca attcactggc cgtcgtttta caacgtcgtg actgggaaaa ccctggcgtt 360
acccaactta atcgccttgc agcacatccc cctttcgcca gctggcgtaa tancgaaaag 420
gcccgcaccg atcgccttcc caacagttgc cagcctgaat ggcaaatgga cncnccctgt 480
aacggcgcat taaaccncgg cgggtgtggg nggttaccc ccaagcgtga ccgntacact 540
tgccagcgcc cttaacgccc gntccttttc gctttcttcc cttcctttct cgccacgttc 600
gccggntttc cccgtaaagc tttaaatcgg gggctccctt taggggtcng attaagggct 660
ttacggacct tgaccccnaa aaactttatt tngggtgatg ggtcacgtag ggggccctcc 720
ct 722

<210> 14
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 14
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taaacacaaa ctaccaccta cctccctcac caaagcccat aaaaataaaa aattataaca 120
aaccctgaga accaaaatga acgaaaatct gttcgcttca ttcattgccc ccacaatcct 180
aggcctaccc gccgaagtac ctgcccgggc gggccgttcn aaagccgatt ctgcagatat 240
ccatcacact ggcggccgct cgagcatgca tctagagggc ccaattcgcc ctatagtgag 300
tcgtattaca attcactggc cgtcgtttta caacgtcgtg actgggaaaa ccctggcgtt 360
acccaactta atcgccttgc agcacatccc cctttcgcca gctggcgtaa tancgaaaag 420
gcccgcaccg atcgccttcc caacagttgc cagcctgaat ggcaaatgga cncnccctgt 480
aacggcgcat taaaccncgg cgggtgtggg nggttaccc ccaagcgtga ccgntacact 540

tgccagcgcc cttaacgccc gntccttttc gctttcttcc cttcctttct cgccacgttc 600
gccggntttc cccgtaaagc tttaaatcgg gggctccctt taggggtcng attaagggct 660
ttacggacct tgaccccnaa aaactttatt tngggtgatg ggtcacgtag ggggccctcc 720
ct 722

<210> 15
<211> 628
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 15
aattaccccc atactcctta cactattcct catcacccaa ctaaaaatat taaacacaaa 60
ctaccaccta cctccctcac caaagcccat aaaaataaaa aattataaca aaccctgaga 120
accaaaatga acgaaaatct gttcgcttca ttcattgccc ccacaatcct aggcctaccc 180
gccgcagtac ctgcccgggc ggccgctcga aagccgaatt ctgcagatat ccatcacact 240
ggcggccgct cgagcatgca tctagagggc ccaattcgcc ctatagtgag tcgtattaca 300
attcactggc cgtcgtttta caacgtcgtg actgggaaaa ccctggcgtt acccaactta 360
atcgccttgc agcacatccc cctttcgcca gctggcgtaa tagcgaagag gcccgcaccg 420
atcgccttcc aacagttgcg cagcctgaat ggcnaatgga cgcgccctgt ancggcgcat 480
taagcgcggc ggtgtggtgg ttacncccag cgtgaccgnt acacttgcca ggccctancg 540
cccgtccttt cgcttcttcc cttcctttnt gccacgttcg ccggttttcc ccgtnaagct 600
ttaaatcggg ggctcccttt agggttcc 628

<210> 16
<211> 764
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 16
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acaaactacc acctacctcc ctcaccaaag cccataaaaa taaaaaatta taacaaaccc 120
tgagaaccaa aatgaacgaa aatctgttcg cttcattcat tgcccccaca atcctaggcc 180
tacccgccgc agtacctgcc cgggcggccg ctcgaagccg aattccagca cactggcggc 240
cgttactagt ggatccgagc tcggtaccaa gcttggcgta atcatggtca tagctgtttc 300
ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt 360
gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc 420
cgctttcagt cgggaaacct gtcgtgccag ctgcattaat gaatcggcca acgcccgggg 480
agaggcgggt tgcgtattgg ggcgctcttc cgttnctcgt cactgactcg ctgcgctcgg 540
tcgttcggct gcgcgagcgg tatcactcac tcaaanggcg gtaataccgg ntatccacag 600
aatcagggga ataacgcagg aaagaacctt gtgaaccaaa aggccaccaa aaaggccngg 660
aaccgtaaaa aaggccncgt tgcttggcgt ttttccatag gcttcgcccc ctggacgagc 720
attaccaaaa atcgacgctn aaattaanag ggggncaaac cccc 764

<210> 17
<211> 803
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis

Porcine

<400> 17
gtccaccata attaccccca tactccttac actattcctc atcacccaac taaaaacatt 60
aaacacaaac taccacctac ctccctcacc aaagcccata aaaataaaaa attataacaa 120
accctgagaa ccaaaatgaa cgaaaatctg ttcgcttcat tcattgcccc cacaatccta 180
ggcctacccg ccgctgtacc tgcccgggcg gccgctcgaa agccgaattc cagcacactg 240
gcggccgtta ctagtggatc cgagctcggt accaagcttg gcgtaatcat ggtcatagct 300
gtttcctgtg tgaaattgtt atccgctcac aattccacac aacatacgag ccggaagcat 360
aaagtgtaaa gcctggggtg cctaatgagt gagctaactc acattaattg cgttgcgctc 420
actgcccgct ttccagtcgg gaaacctgtc gtgccagctg cattaatgaa tcggccaacg 480
cgcggggaga ggcggtttgc gtattgggcg ctcttccgct tcctcgctca ctgactcgct 540
gcgctcggtc gttcggctgc ggcgagcggt atcagctcac tcaaaggcgg taatacgggt 600
atccacagaa tcaggggata acgcaggaaa gacatgtgag caaaaggcca gcaaaaggcc 660
aggaaccgta aaaanggccg cgttgctggc gtttttccat angctccggc cccctggaca 720
agcattacaa aaaatcgacg cttaaattca nangtggcna aacccgacag gacttttaaa 780
gatcccaggc gtttnccctg gaa 803

<210> 18
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 18
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actaccacct acctccctca ccaaagccca taaaaataaa aaattataac aaaccctgag 120
aaccaaaatg aacgaaaatc tgttcgcttc attcattgcc cccacaatcc taggcctacc 180
cgccgcagta cctgcccggg cggccgctcg aaagccgaat tctgcagata tccatcacac 240
tggcggccgc tcgagcatgc atctagaggg cccaattcgc cctatagtga gtcgtattac 300
aattcactgg ccgtcgtttt acaacgtcgt gactgggaaa accctggcgt tacccaactt 360
aatcgccttg cagcacatcc cctttcgcc agctggcgta atagcgaaga ggcccgcacc 420
gatcgccctt ccaacagttg cgcagcctga atggcgaatg gacgcgccct gtancggcgc 480
attaagcgcg gcgggtgtgg tggttacncg cancgtgacc cgctacactt gccaancgcc 540
ctacgcccgc tcctttcgct ttcttccttc tttctcgcca cgttngccgg ntttncccgt 600
naagctntaa atcgggggct ccctttangg gtcccattta nngctttacg ggacctnnan 660
cccaaaaaac ttgattnngg nganggntna cntnngggnc atnnnnctga tanacnggtt 720
tt 722

<210> 19
<211> 647
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 19
ttgntngccc cttcntaagg aagccgttca agctcaacac ccactaccta aaaaatccct 60
aacatataac tgaactcctc acacccaatt ggaccaatct atcaccctat agaagaacta 120
atgttagtat aagtaacatg aaaacattct cctccgcata agcctgcgtc agattaaaac 180
actgaactga caattaacag cccaatatct acaatcaacc aacaagtcat tattaccctc 240
actgtcaacc caacacaggc atgctcataa ggaaaggtta aaaaaagtaa aaggaactcg 300
gcaaatcata ccccgcctgt ttaccaaaaa catcacctct agcatcacca gtattagagg 360
caccgcctgc ccagtgacac atgtttaacg gccgcggtac ctgcccgggc ggccgctcga 420

aagccgaatt ncagcacact ggcggcccgt tactagtgga tccgagctcg ntcccaagct 480
tggcgtaatc atggtcatag ctgttttcct gtgtgaaatt gttatccgct cacaattcca 540
cacaaccata cgagcccgga aacatanaag tgtaaagcct ggggtggcct aatggangtg 600
nagcttactt ancatttatt ngcgttgcgc ttactggccc gcttttc 647

<210> 20
<211> 715
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 20
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cctactcatc gcactaattt acactcacaa caccctaggc tcactaaaca ttctactact 120
cactctnact gcccaagaac tatcaaactc ctgagctaac aacttantat gactagctta 180
cncantagct tttatagtaa anatncctnt ttacggactc cacttatgac tccntaaagc 240
ccatgtcnaa gcccccatcg ctgggtcaat agnacctgcc cgggcggccg ntcgaaagcc 300
gaattgtgca natatccatc acacntggcg gccgctngag catgcatnta gagggcccan 360
ttcgccctat agagagtcgt atnacaattc annggccgnc gttttacaac gtcgagactg 420
ggaaaaccnt ggcgttaccc ancttaatcg cnttgcagca catccccntt tcgccagctg 480
gcgtaatagc gaagaggccc gcaccgatcg cccttcccaa cagttgcgca ncctgaatgg 540
caaatggacn cncccctgtag cggcgcatta ancgcggcgg gtgtggnggt tacncgcang 600
gtgaccgnta cacttgccag cgccctagcg cccgcttttt cgctttcttc ccttctttct 660
cgccacgttc gggnggtttt cccccgnaag ctttaaatgg ggggctccnt ttagg 715

<210> 21
<211> 727
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 21
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actcatcgca ctaatttaca ctcacaacac cctaggctca ctaaacattc tactactcac 120
tctcactgcc caagaactnt caaactcctg agctaacaac ttaatatgac tagcttacac 180
antagctttt atagtaaaga tacctcttta cggactccac ttatgactcc ctaaagccca 240
tgtcgaancc cccatcgntg ggtcaatagt acctgcccgg gcggccgttc naaagccgaa 300
ttttgcaaat ntccatcaca ctgggggccg ttcgancatg cntntanagg gcccaattcn 360
ccctataggg agtcgtttta caatcanngg ccggcgtttn acaacgtcgn gactngggaa 420
aaccttgggt tacccacttt atcggcttgn aananatccc cntttgncaa nttggggtna 480
taaccaaaaa ggccngaacc gaattggcct ttccaanaag ttggccaacc tgaatngnga 540
aanggccccc cctgtaangg gggcantaaa cccccggggg tgtngggggt acccccccang 600
gggaccggtn naatttggca aggccctaaa nncccggttc ttttggtttt nttccctttc 660
ttttttgcc aannttngnc gggtttttcc cccggaaaag ttttaaaann gggggggtnc 720
nttttng 727

<210> 22
<211> 578
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence

Muscular steatosis
Porcine

<400> 22
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ctactcatcg cactaattta cactcacaac accctaggct cactaaacat tctactactc 120
actctcactg cccaagaact atcaaactcc tgagctaaca acttaatatg actagcttac 180
acaatagctt ttatagtaaa gatacctctt tacggactcc acttatgact ccctaaagcc 240
catgtcgaag cccccatcgc tgggtcaata gtacctgccc gggcgggcgc tcgaaagccg 300
aattctgcag atatccatca cactggcggn cgctcgagca tgcatctaga gggcccaatt 360
cgccctatag tgagtcgtat tacaattcac tggccgtcgt tttacaacgt cgtgactggg 420
gaaaaccctg gggttaccca acttaatcgc cttgggngca cattcccctt tngccanctt 480
ggcgtaatag ccgaaaaagg ccgcaccgat cggccttttc caacaggttg gcgcaannnt 540
gaatggggaa atgggacncn ccctgnaang gggccatt 578

<210> 23
<211> 780
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 23
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gtaggtgtgc cttgtggtaa gaagtgggct agagcatttt taatcttaga gcgaaagcct 120
ataatcactg cgcccgctca taaggggatg gccatggcta ggtttataga tagttgggtg 180
gttggtgtaa atgagtgagg caggagtccg aggaggttag ttgtggcaat aaaaatgatt 240
aaggatacta gtataagaga tcaggttcgt cctttagtgt tgtgtatggt tatcatttgt 300
tttgaggtta gtttgattag tcattgttga cctgcccggg cggccgctcg aagccgaatt 360
ctgcagatat ccatcacact ggcggccgct cgagcatgca tctanagggc ccaattcgcc 420
ctatagtgag tcgtattaca attcactggc cgtcgtttta caaccgtcgt gactgggaaa 480
accctggcgt tacccaactt aatcgccttg cagcacatcc ccctttcgnc agctggcgta 540
atancgaaga ggcccgcacc natcgcnctt cccaacagtt gcgcagcctg aatggcnaat 600
ggacncnccc tgtagcggcg cattaaaccg ctgcgggtgt ggntggttac ncgcanctgt 660
gaccgttcac ttgccagcgc cctaacgccc ggtccttttc gctttcttcc ttcttttttt 720
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<210> 24
<211> 811
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 24
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atttgggagt gatgggttct gatatttcac tccattcact ttccccacct agattttcac 180
atttcacacg aaactcgtat tcaagacctt caataaggtt tttcactgaa aagacagttt 240
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caagaatctt ttggtgacag caagtaatag ttgggttgcc aagaacncct ggcttttcaa 420
atggactctt aatggatcac cactggaggc cacttttaaa aggtcactga tgcccnaagg 480
tgtctgaacc ttaaaccccg aagtaatanc cagcantttc tggngaaggt cnccaattct 540
acanggtggc actnaaaang ctgaaaaccc cantgcattt anncccttct tgggctnaca 600

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tttttncccn cataagttgg nganncaaga nccttcgnca tttggggtgg gttccactga     660
ncactnnngg anntcttnat nnaacttnga tcaccattgg gcccgtaagt ttggcngggt     720
aacntggatt tccncattna nggtngnntt nactgngtcc aaaaacattg ntgaactngg     780
cctttgnttt ttcnncntga gncntaaacc g                                    811

<210> 25
<211> 822
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
      Muscular steatosis
      Porcine

<400> 25
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aggggatggc tcgccactga tttcacaagt aaagagaaca ttttgtcctt cattaatatt     180
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tctttggnac tggcttggct ngatggttag gggtctgatc gcttgcctga aacaccatat     360
cggtncctgc ccggccggcc gttcnaaagc cganttccag cacantggcg gccgttacta     420
gnggatccga nctcggacca nccttgncgt antcatggca tagntgtncc tgggtnaaat     480
ggttatccgt tcacaattcc acacaannta cgacccggaa gccntaaagg nnaaaccctg     540
gggngcntaa tgagtgannt naactcanat taattggcgt tgcnctcact gcccgttttc     600
cagtggggna aaccngtctg cccaatnncn ttaangaaat gggccaacnc ccggggaana     660
ggcggttngc ntnttgggcg cttttccgtt nctngttcan nnanntcttg ncntnggncn     720
ttngnttggg gaaaccggtt tnagttcnct taaagggngg ggtantcggg ttttcccaaa     780
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<210> 26
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
      Muscular steatosis
      Porcine

<400> 26
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aggggatggc tcgccactga tttcacaagt aaagagaaca ttttgtcctt cattaatatt     180
ttgagatcta ggctgtgaga tgaaggctgg agcatctgag agttctttgc tcagtgtcaa     240
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atctctgtga ctggcttgct tgatggttag ggtctgatcg ctgcctgaga caccatatcg     360
gtacctgccc gggcggccgc tcgaaagccg aattccagca cactggcggc cgttactaag     420
tggatccgag ctcggtacca agcttggcgt aatcatggtc atagctggtt tcctgtgtga     480
aaattgttat ccgntacaat tccacacanc atacnanccg gtaagcatnn aagtgtaaat     540
gccctggggn gcctnaatga gtgagctaac tnacattaat tngngttncg cttanttggc     600
cgctttncan tcnggnaacc tgtcttgcca ctggattnat naatcngnnc aacncnccng     660
ngangaggct gnttgnntat tgggccgcta tttcgctttc ttgttattga ctngttgcgc     720
tcgggncgtc tggnttcggc taacggnatt                                      750

<210> 27
<211> 675
<212> DNA
<213> Artificial Sequence
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<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 27
atttgacgat aggttttgga tgaccagtca ctttgcagac caaggtagca ttgctctgat 60
atctgacatt tagatttctc agttcctctt taaagtgtgg tgcctgaatt gggacatcag 120
atttgggagt gatgggttct gatatttcac tccattcact ttccccacct agattttcac 180
atttcacacg aaactcgtat tcaagacctt caataaggnt tttcactgaa aagacagttt 240
ctcgaatttc ttctgntgnc acagaaatcc atttattctg cttcttctna cgcttctcaa 300
ggnagtaatt tctaatcttt gcaccttcat nactngcaag nggcttncan gccacaacnc 360
nagaatcttt tgngacnncn gtaatagntg ggttgncnag aacccctggc ttttcnaatg 420
gnccnttaat ggnnccacnn gaggcccntn tnaaagggca anngnnccca aaggggtcna 480
acntgaaccc cgaagttatt ccnncanttt ctgngaaggt cacaattnta ccgggtggcn 540
cngananngn tnaananccc cattggcntt ttaacccccc cnttggccca cattttcnc 600
cccatatatn ggggatnccg nnaccccgng aatttgnggg nggggttccc ttnaacntng 660
gggattttna aatag 675

<210> 28
<211> 762
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 28
taaanactct cagatgctcc agccttctct acagcctaga tctcaaaata ttaatgaagg 60
acaaaatgtt ctctttactt gtgaaatcag tggcgagcca tcccctgaaa tcgaatggtt 120
taaaaacaac ctgccaattt ctatttcttc aaatgtcagc ataagccgct ccagaaatgt 180
atactccctt gaaatccgaa atgcatcagt cagcgacagt ggaaagtaca caattaaggc 240
caaaaatttc cgtggccagt gttcagctac agcttcctta atggtccttc ctctagttga 300
agaaccttcc agagaggtag tattgagaac aagtggtgac acaagcttgc aaggaagctt 360
ctcgtctcag tcagtccaaa tgtctgcctc caagcaggag gcctccttca gcagtttcag 420
cagcagcagt gctagcagca tgactgagat gaaatttgca agcatgtctg cccaaagcat 480
gtcctccatg caagagtcct ttgtanaaat gagttccagc agctttatgg gaatatctaa 540
tatgacacaa ctggaaagct caactagtaa aatgcttaaa gcaggcataa gaggaattcc 600
gcctaaaatt gaactnttcc atctgatatc agcattgatg aaggcaaagt tctaacagta 660
ncctgtgctt tcacgggtga ncctacccca aaagtaacat ggncctgngg tggaaaaaaa 720
atccncagtc aaaaacnggg ggangttccc atttgaaaac ct 762

<210> 29
<211> 784
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 29
ccaagttgtg caaagtgaga aagatctttg tgggcacaaa aggaatccct catctggtga 60
ctcatgatgc ccgcaccatc cgctaccccg atcccctcat caaggtgaat gataccattc 120
agattgattt agagactggc aagattactg atttcatcaa gttcgacact ggtaacctgt 180
gtatggtgac tggaggtgct aacctaggaa gaattggtgt gatcaccaac agagagaggc 240
gccctggatc ttttgacgtg gttcacgtga aagatgccaa tggcaacagc tttgccactc 300
gactttccaa catttttgtt attggcaagg gcaacaaacc atggatttct cttccccgag 360

gaaagggtat ccgcctcacc attgctgaag agagagacaa aagactggcg gccaaacaga 420
gcagtgggtg aaatgggtcc ctgggtgaca tgtcagatct ttgtacctgc ccgggcggnc 480
gctcgaaagc ccgaattcca gcacactggc ggccgtacta gtggatccga gctcggtacc 540
aagcttggcg taatcatggc atagctgttc ctgtgtgaaa ttggtatccg ttacaattcn 600
cacacatacc aaccggaagc ttaagtgtaa gcctggggtg cctaatgagt gactacttac 660
attaattgcg ttgcgctcac tggccgtttt cagtcggnaa cctgtcgtgc caacttnatt 720
aatgaatcgg gcaacccccg ggaaaagcgg gttgctattg ggcgcttttc cncttccttg 780
gtta 784

<210> 30
<211> 709
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 30
ttgtgcaaat gagaaagatc tttgtgggca caaaaggaat ccctcatctg gtgactcatg 60
atgcccgcac catccgctac cccgatcccc tcatcaaggt gaatgatacc attcagattg 120
atttagagac tggcaagatt actgatttca tcaagttcga cactggtaac ctgtgtatgg 180
tgactggagg tgctaaccta ggaagaattg gtgtgatcac caacagagag aggcgccctg 240
gatcttttga cgtggttcac gtgaaagatg ccaatggcaa cagctttgcc actcgacttt 300
ccaacatttt tgttattggc aagggcaaca aaccatggat ttctcttncc cgaggaaagg 360
gtatccgcct naccattgct gaanagagag acnaaagact ggcgggcaaa cagancantg 420
ggtgaaatgg gtccctgggt gacatgttaa aactttgtac ctgcccnggc gggcgnttaa 480
ancccaattt cgcacactgg ngggccgttc tagtggatcc nanctnggta ccaancttgg 540
ngtaatcatg ggcatactgg tttcctgtgt gaaaatggta tcccttacca atttcncaca 600
acattannan cccngaagcn ttaaagtgta aaacctgggg gngcctaatg agtnagctaa 660
ctccattaat tgngtggggc tcanttgccg ctttttnatn cgggaaact 709

<210> 31
<211> 789
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 31
aagttgtgca aagtgagaaa gatctttgtg ggcacaaaag gaatccctca tctggtgact 60
catgatgccc gcaccatccg ctaccccgat cccctcatca aggtgaatga taccattcag 120
attgatttag agactggcaa gattactgat ttcatcaagt tcgacactgg taacctgtgt 180
atggtgactg gaggtgctaa cctaggaaga attggtgtga tcaccaacag agagaggcgc 240
cctggatctt ttgacgtggt tcacgtgaaa gatgccaatg gcaacagctt tgccactcga 300
ctttccaaca tttttgttat tggcaagggc aacaaaccat ggatttctct tccccgagga 360
aagggtatcc gcctcaccat tgctgaagag agagacaaaa gactggcggc caaacagagc 420
agtgggtgaa atgggtccct gggtgacatg tcagatcttt gtacctgccc gggcggncgc 480
tcgaaagccg aattcagcac actggcggcc gttactagtg gatccgagct cggtaccaag 540
cttggcgtaa tcatggcata gctgtttcct gtgtgaaatt ggtatccgct cacaattcac 600
acaacatacg agccggaagc ataaagtgta aagcctgggg tgcctaatga gtgagctaac 660
tcacattaat tgcgttgngc tcactgnccg ctttncagtc gggaaacctg tcgtgccanc 720
tgcattaatg aatcggccaa cgcncgggga naagcggttt gcgtattggg cgctntttcc 780
ctttctcnc 789

<210> 32
<211> 832

<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 32
acttgtgggc attaggtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaga gcatggctgt aggggcgatc tgaggtgcca tcatcaatgt tcttcacgat 180
gacagctttg cgtccggagt agcgtccagc caggacaagc accaccttcc caggtttcat 240
gaacttgccc atttcggcag caaccacccg acctgcccgg gcggccgctc gaaagccgaa 300
ttccagcaca ctggcggccg ttactagtgg atccgagctc ggtaccaagc ttggcgtaat 360
catggtcata gctgtttcct gtgtgaaatt gttatccgct cacaattcca cacaacatac 420
ganccggaan cataaagtgt aagcctgggg tncctantga gtgagctaac tcacaataat 480
tgcgttgcgc ttaatgcccg cttttcaaga cgggaaaccc tgtcngtgcn aacctgcatt 540
natganttcg gcaatgcncc ggggaagagg cggnttgncg tatttgggcg ctctttccgc 600
tttcttngtc antgactcnn tgcgcntcgg ncngttcagn ntgcnggcna gccggtttca 660
ncttactcaa aaggcggnaa atacgggttt ttcacannnt ctggggataa cgnaangaaa 720
naacnatgtg antnnanang cntnnnaaag ggcctngaac ccgnaaaaan ggccnnnttn 780
cttggcgttt tccataangc tttgnncncc ttgctnngca ttncaaaaaa tn 832

<210> 33
<211> 805
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 33
acttgtgggc attaggtgat tgtagttata cactttncaa aagattttat ctttgatctc 60
ttggcgatct tcttcttgcc catggcagct gtcactttgc gggggtagcg gtcaattcca 120
gccaccagag catggctgta ggggcgatct gaggtgccat catcaatgtt cttcacgatg 180
acagctttgc gtccggagta gcgtccagcc aggacaagca ccaccttccc aggtttcatg 240
aacttgccca tttcggcaca tgcccgggcg gccgctcgaa agccgaattc tgcagatatc 300
catcacactg gcggccgctc gagcatgcat ctagagggcc caattcgccc tatagtgagt 360
cgtattacaa ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac cctggcgtta 420
cccaacttaa tcgccttgca gcacatcccc ctttcgccag ctggcgtaat agcgaagagg 480
cccgcaccga tcgcccttcc caacagttgc gcagcctgaa tggcgaatgg acgcgccctg 540
tagcggcgca ttaagcgcgg cgggtgtggt ggttacgcgc aacgtgaccg ctacacttgc 600
cagcggccct tacgcccgtt cctttcgctt ttcttncctt tctttcttgg ccacgtttcg 660
ccggnttttc cccggtcaaa gcttttaaat cnggggggctn cctttaaggg ttcccgattt 720
aatggcttta cggggaccnt tgaaccccaa aaaacttgga ttaagggtga atgggttcac 780
gttantgggg ccattgccct tgata 805

<210> 34
<211> 768
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 34

cctgtgggca ttaggtgatt gtagttatac actttcacaa aagattttat ctttgatctc 60
ttggcgatct tcttcttgcc catggcagct gtcactttgc gggggtagcg gtcaattcca 120
gccaccagag catggctgta ggggcgatct gaggtgccat catcaatgtt cttcacgatg 180
acagctttgc gtccggagta gccgtccagc caggacaagc accaccttcc caggtttcat 240
gaacttgccc atttcggcac ctgcccgggc ggccgctcga aagccgaatt ccagcacact 300
ggcggccgtt actagtggat ccgagctcgg taccaagctt ggcgtaatca tggtcatagc 360
tgtttcctgt gtgaaattgt tatccgctca caattccaca caacatacga gccggaagca 420
taaagtgtaa agcctggggt gcctaatgag tgagctaact cacattaatt gcgttgcgct 480
cactgcccgc tttccagtcg ggaaacctgt cgtgccagct gcattaatga atcggccaac 540
gcgcggggag aggcggtttg cgtattgggc gctcttncgc tttcttcgct cactgactcg 600
ctgcgctcgg nccgttcggc ttgcggcnaa gcggtattaa gcttaactta aaaggcgggn 660
aataccggtt atttccacag naattcaggg ggattaaccg cnnggaaaag aaccatggtg 720
aagccaaaag ggcccancaa aaaaggcccn ggaacccgtt aaaaangg 768

<210> 35
<211> 600
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 35
atcttntggg cattcgtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaga gcatggctgt aggggcgatc tgaggtgcca tcatcaatgt tcttcacgat 180
gacagctttg cgtccggagt agcgtccagc caggacaagc accaccttcc caggtttcat 240
gaacttgccc atttcggcac ctgcccgggc ggccgctcga aagccgaatt cagcacactg 300
gcggcccgtt actagtggat ccgagctcgg taccaagctt ggcgtaatca tggtcatagc 360
tgtttcctgt gtgaaattgt tatcncgctc acaattccac acaacatacg agcccggaan 420
cataaagtgt naaagcctng gggtgcccta atgagtgagc taacttcaca ttnattgcgt 480
tgcgctcact gccccgcttt ccattcggga aaacctgtcg tgccagntgc ataaattgaa 540
ntcnggccaa cccccgggng anaaggcngt tttgcnaatt nggcgctttt ccgnttcctt 600

<210> 36
<211> 299
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 36
accttgtggg cattaggtga ttgtagttat acactttcac aaaagatttt atctttgatc 60
tcttggcgat cttcttcttg cccatggcag ctgtcacttt tgcgggggta gcgggtcaaa 120
ttccagccca ccagagnatg gcttgtaagg ggcnnacntg aggtgccatc atcaaatggt 180
ncttcacnga taacagtttt gcgnccggan naccngaccn tccannacaa ncacnacntt 240
ccnagntnnn annaactggc catttnngna actngcccag nnggcntntn tnaaaccaa 299

<210> 37
<211> 601
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis

Porcine

<400> 37
acttgtgggc attaggtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaga gcatggctgt aggggcgatc tgaggtgcca tcatcaatgt tcttnacnat 180
gacagctttg cgtccggagt accgtccagc caggacaagc accaccttcc caggtttcat 240
gaacttgccc atttcggcac ctgcccgggc ggccgttcna aagccgaatt ccagcacact 300
ggcggccgtt actagtggat ccganctngg tccaatctng gcgtaatcan ggncatanct 360
gttccctgtg agaaattgnt atccgctcac anttcccaca anatacganc cggaagcata 420
aagtgtaaan cctggggcgc ctaatgagtg agctaactca cattaattgc gntgtgctna 480
ctgcctgttt tncagtnngn aancntgtcn cngccaagct nnatttaaaa atcggcaacn 540
cgccggnana aggctggttn ctttttgggc ntntnccgct tcctcgctna ctgactcgtt 600
g 601

<210> 38
<211> 749
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 38
cttgtgggca ttaggtgatt gtagttatac actttcacaa aagattttat ctttgatctc 60
ttggcgatct tcttcttgcc cacggcagct gtcactttgc gggggtagcg gtcaattcca 120
gccaccagag catggctgta ggggcgatct gaggtgccat catcaatgtt cttcacgatg 180
acagctttgc gtccggagta gcgtccagtc aggacaagca ccaccttccc aggtttcatg 240
aacttgccca tttcggcagc aaccacccga cctgcccggg cggccgctcg aagccgaatt 300
ccagcacact ggcggccgtt actagtggat ccgagctcgg taccaagctt ggcgtaatca 360
tggtcatagc tgtttcctgt gtgaaattgt tatccgctca caattccaca caacatacga 420
gccggaagca taaagtgtaa agcctggggt gcctaatgag tgagctaact cacattaatt 480
gcgttgcgct actgcccgct ttcagtcggg aaacctgtcg tgccagctgc attaatgaat 540
cggccaacgc gcggggagag gcggtttgcg tattgggcgc tcttccgctt nctcgctcac 600
tgactcgctg cgctcggtcg ttcggctgcg gcnagcggta tcagcttact taaaggcggt 660
aataccggta tncacagaat caggggataa cgcaggaaag aaacatgtga accaaaggcn 720
ancaaaaggg caggaacccg taaaaaggc 749

<210> 39
<211> 801
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 39
tncttgtnng nttaagtgat ngtagttata cactttcaca aaaganttta tctttgancn 60
cttggcganc ttcttcttgc ccatngcant tgtcactttg cgggggtagc cggtcaattt 120
cagggcccan ancatggntn taaagggcna nctgaggngc cattattnat gtgctttacg 180
atnacanctt tncgnncnga gaatngtcac cccgacaaac accncctttt cacnggntta 240
tgaacttttc catttttgng gnanccaccn cgaaacttnt ccgggggggng cgcttttaaa 300
aacgcnattt tnncacannn ggtggcccgn tacctnntng naggcccacc tncnntnccn 360
nacattgngg ggaataattn ggtgatanac aaggttntcn ncgtggaaaa aaannttatt 420
cccctnacna aattntnccc nacantctna cccgaaagnn ttnaaanggn taatanccgg 480
ngggggggctc aattannngan gncnnnctna acnnttaaan ttnnnttggn ggctcactnn 540
gccnctttttt ttnntcnggg aaanantttt tttnccacct tngtttnatn aantnnggcc 600

nancccccg gnaaaanaag gtgtttncnt nttgggggc gcttttcgct tcttttantt 660
aatanaattn gnttnnggct tnggtcnggt tnangttnng ntaanngggn nttaanttnn 720
ntttnaaann ggggnggata cnagggtntt tcnctataan aaangnnggg gtnancnctc 780
tnngnaaaaa antttttttc t 801

<210> 40
<211> 599
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 40
acttgtgggc attgggtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaaa gcatggntgt aggggcnatc tgaggngcca tcatcaatgt tcttcacgat 180
gacagctttg cgtccggagt agcgtccagc caggacaagc accaccttcc caggtttcat 240
gaacttgccc atttcggcag caaccacccg acctgcccgg gcggccgntc gaaagccgaa 300
ttctgcagat atccatcaca ctggcggccg ntcgagcatg catctanagg gcccaattcg 360
ccctatagtg agtcgtatta caattcactg gccgtcgttt tacaacgtcg tgactgggaa 420
aaccctggcg ttacccaact taatcgcctt gcagcanatc ccccttccc agntggcgta 480
atancnaaaa ngcccgcacc natcgccttt nccaacagtt gcccaccctg aatggcaaat 540
ggaccccccc gtancggngc attaancncg gcggntgtgg ggggtacccc cannngngac 599

<210> 41
<211> 579
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 41
tcttgtgggc attgggtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaga catggcttgt aggggcgaat ctgaggtgcc atcatcaatg ttcttcacga 180
atgacagctt ttgcgtccgg agtancgtcc agccagaaca agcaccacct tcccaggttt 240
natgaacttg cccatttcgg cagcaaccac ccnacntgcc cggccggccg ttcnaaagcc 300
gantttgca natttccttn anantgncgg ccgttcaacc ntgcttttaa agggcccatt 360
tngccntnta gggagncgan tnccattnaa ttggccgtng tttnacannt tcgggantgg 420
aaaaccttgg cnttccaant tantcccttg aagaanntcc cntttcnaan ttnggcgtaa 480
taccaaaaag gcccgaaccg ttngcctttc caaaagtggc cnaccctnat tggcaantgg 540
acccccctg tacnggcntt nancccggc gggtggtgg 579

<210> 42
<211> 286
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 42
tncttgtcgg cattaggtga tngtagttat acactttcac aaaagatttt atctttgatc 60

tcttggcgat cttcttcttg cccatggcag ctgtcacttt gcgggggtag cggtcaattc 120
cagccaccag agcatggctg taggggcgat ctgaggtgcc atcatcaatg ttcttcacga 180
tgacagcttt gcgtccggag tagcgtccag ccaggacaag caccaccttc ccaggtttca 240
tgaacttgcc cntttcggna cntgcccggn cggccgttcn aaagcc 286

<210> 43
<211> 597
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 43
acttgtgggc attaggtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaga gcatggctgt aggggcgatc tgaggtgcca tcatcaatgt tcttcacgat 180
gacagctttg cgtccggagt ancgtccagc caggacaagc accaccttcc caggcttcat 240
gaacttgccc atttcggcac ctgcccgggc ggccgttcga aagccgaatt ctgcanatat 300
ccatcacact ggcggccgtt cgagcatgca tctagagggc ccaattcgcc ctatagngag 360
tcgnattaca attnattggc cgtcgtttaa caacgtcgnn antggnaaaa ccttgnngtt 420
cccaactaaa tngcnttnna gnnaatcccc ntttcccaat tggcgaaatc naaaaaggcc 480
cgcccantgg ccnttccaaa canttgccna ccctaattgg gaangggacc ccccttgtag 540
gggcatttaa cccggnggnt gtgggggtcc ccccagngaa ccgntanttt tgcnagc 597

<210> 44
<211> 756
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 44
ncttgtgggc attaggtgat tgtagttata cactttcaca aaagatttta tctttgatct 60
cttggcgatc ttcttcttgc ccatggcagc tgtcactttg cgggggtagc ggtcaattcc 120
agccaccaga gcatggctgt aggggcgatc tgaggtgcca tcatcaatgt tcttcacgat 180
gacagctttg cgtccggagt agcgtccagc caggacaagc accaccttcc caggtttcat 240
gaacttgccc atttcggcac ctgcccgggc ggccgctcga aagccgaatt ctgcagatat 300
ccatcacact ggcggccgct cgagcatgca tctagagggc ccaattcgcc ctatagtgag 360
tcgtattaca attcactggc cgtcgtttta caacgtcgtg actgggaaaa ccctggcgtt 420
acccaactta atcgccttgc agcacatccc cctttcgcca gctggcgtaa tagcgaaaag 480
gcccgcaccg atcgcccttc caacagttgc gcaacctgaa tggcgaatgg acgcgccctg 540
tancggcgca ttaagcgcgg cgggtgtggt ggttacgcgc ancgtgaccc gntacacttg 600
ccagcgccta cgcccgntcc tttcgttttc ttccttnctt tctngncacg ttcgccggct 660
ttcccgtnaa agctctaaat cgggggctcc tttangggtc cgattagtgc tttacggnac 720
cttgaccccc aaaaacttga tagggngatg ggtcnn 756

<210> 45
<211> 707
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 45
tcattggcat taggtgattg tagttataca ctttcacaaa agattttatc tttgatctct 60
tggcgatctt cttcttgccc atggcagctg tcactttgcg ggggtagcgg tcaattccag 120
ccaccagagc atggctgtag gggcgatctg aggtgccatc atcaatgttc ttcacgatga 180
cagctttgcg tccggagtag cgtccagcca ggacaagcac caccttccca ggtttcatga 240
acttgcccat ttcggcacct gcccgggcgg ccgctcgaaa gccgaattcc agcacactgg 300
cggccgttac tagtggatcc gagctcggta ccaagcttgg cgtaatcatg gtcatagctg 360
tttcctgtgt gaaattgtta tccgctcaca attccacaca acatacgagc cggaagcata 420
aagtgtaaag cctggggtgc ctaatgagtg agctaactca cattaattgc gttgcgctca 480
ctgcccgctt ttcaatcggg aaacctgtcg tgcagctgca ttaatgaatc ggtcaacgca 540
cggngaaaag gcagtttgcg tattgggccg ctctttccgn ttcctcgntn actgantcgc 600
ttnacntcgg tcgttcggnt gctgctnagc nggtatnagn ttactcaaan ggcggntaat 660
accgttatcc acaanaatca ggggattacn ccanggaaaa gaacatg 707

<210> 46
<211> 799
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 46
cgacatgcca gtatctttgg ggggtggccc ctcccagtca tggataccaa gttctcccca 60
cgcagcaaca ccagacccaa aacccgcttt tcttcacgct ctggttgctt cgcattcttt 120
ggcttgatct ttctgaactc atcacaatca cagaggatca aattcatatg cttgtcaaaa 180
gccttaaaag tgccaatgaa gattcggcca tcttgcagga tacatctcat tctatagtca 240
atgtgctgca gcatcttgct actcttgcca acagtcatga ttgctgttcc accaaatcca 300
atgtccacag ttaaaacttg atgcttctga agacctaggg gaaggctata gataaaggta 360
tgacgcaggt tctcctagaa acaatgcaag ctgggcagaa ncttcaaaga gtagatggag 420
cctggttttt gcttggaatc agattcctcg ctactccaat atggctttaa ccacctcttg 480
gtgtctcagc taagaatgcc tgcctcagtt cacctggaaa tncaccacag gtacctgccc 540
gggccggccg ttcgaaaacc naatttcagc acactggcgg ccgtactant nggatcnagc 600
tngnaccaag cttggcggaa atcatggcat actgnttcct ggngtgaaaa ttggtatccg 660
ttcacaattn cacanacata cgaagcccgg aagcctaaag ngtaaagcct gggggtggcc 720
taatgagtga gctaantaca ttaaatgggt tgngntaatt gcccgttttc antnggaaaa 780
cttgnttgcc agttgnttn 799

<210> 47
<211> 809
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 47
cgacatgccg tatctttggg gggtggcccc tcccagtcat ggataccaag ttctccccac 60
gcagcaacac cagacccaaa acccgctttt cttcacgctc tggttgcttc gcattctttg 120
gcttgatctt tctgaactca tcacaatcac agaggatcaa attcatatgc ttgtcaaaag 180
ccttaaaggt gccaatgaag attcggccat cttgcaggat acatctcatt ctatagtcaa 240
tgtgctgcag tatcttgcta ctcttgccaa cagtcatgat tgctgttcca ccaaatccaa 300
tgtccacagt taaaacttga tgcttctgaa gacctagggg aaggctatag ataaaggtat 360
gacgcaggtt ctcctagaaa caatgcaagc tgggcagaag cttcaaagag tagatggagt 420
ctggtttttg cttggaatca gattcctcgc tactccaata tggctttnac cacctcttgg 480
gtcttnnctt agaatgcctg cctcagttca gnctggaaat ccaccaacag gtacctgccc 540

gggcngncgn tcaaagccga attctgcaga tatccatcac acttggcngc cgctnngagc 600
atgcatctng agggccccan ttcnncctatt ttgaggtcgt attacaattc acttggccgc 660
ttttacaacg ttgtgaatng gaaaaccctg cngntncccn aaattaancg ccnttgccat 720
nacattcccc tttngnnanc tngcgtnata tcnaaaaagg ccctgaccnn atngcccntt 780
ncnaanagtt tgcncncctg gannggann 809

<210> 48
<211> 804
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 48
ntnttgaaca cccttggnac ctttggnggg tggcccctcc cagtcatgga taccaagttc 60
tccccacgca gcaacaccag acccaaaacc cgcttttctt cacgctctgg ttgcttcgca 120
ttctttggct ngatctttct gaactcatca caatcacaga ggatcaaatt catatgcttg 180
tcaaaagcct taaaagtgcc aatgaagatt cggccatctt gcaggataca tctcattcta 240
tagtcaatgt gctgcagcat cttgctactc ttgccgacag tcatgattgc tgttccacca 300
aatccaatgt ccacagttaa aacttgatgc ttctgaagac ctaggggaag gctatagata 360
aaggtatgac gcaggttctc ctagaaacaa tgcaagctgg gcagaagctt caaagagtag 420
atggagcctg gtttttgctt ggaatcagat tcctcgctac tccaatatgg ctttaaccac 480
ctcttggtgt ctcaactaan aatgcctgcc tcagttcagc ctggaaatcc accacaggtc 540
ctgcccgggc nggccgctcg aaagccgaat tccagcacac tggcgggcgg tactagtgga 600
tccnaactcg gtccaagctt ggcgtaatca tggtcatagc tgttcctgtg tgaaattgta 660
tccgttacaa ttcncacaca tacaaccgga agccttaaag tgtaaanctg gggtgcctaa 720
tgagtgagct aactcacatt aatgcgttgg gctnntggcc gtttccntcg ggaacctgtc 780
ngccactgct taatgattgg ccan 804

<210> 49
<211> 714
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 49
nccgacantg ccagtatctt tgggggtgg cccctcccag tcatggatac caagttctcc 60
ccacgcagca acaccagacc caaaacccgc ttttcttcac gctctggttg cttcgcattc 120
tttggctnga tctttctgaa ctcatcacaa tcacagagga tcaaattcat atgcttgtca 180
aaagccttaa aggtgccaat gaaaattcgg ccatcttgca ggatacatct cattctatag 240
tcaatgtgct gcagcatctt gctactcttg ccaacagtca tgattgctgt tccaccaaat 300
ccaatgtcca caagttaaaa cttgatgctt ctgaanacct aggggaaggc tatanataaa 360
ggtatgacgc aggttctcct anaaacaatg caagctgggg cagaancttc aaaagagtan 420
atgggancct nggtttttgc ttggaatcaa gattnctcgc tactccaatn gtggnttata 480
accaccttgt tgggggtctc agctaaanaa tgcctgcctc aattcatcct ggnaaatcca 540
cccngggnta ccttgccnnn gncnggccgc ttnanaaagg ccgaaatttc cancccnaac 600
tgggcnggcc ggttanttag gnggggatccc aancttggta accaaannnt tgggngtaat 660
tcattggttc ataagcttgg ttcctggggn nnaaaaattg gnttnncccg ttta 714

<210> 50
<211> 663
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 50
ccgacatgcc gtacctttgg ggggtggccc ctcccagtca tggataccaa gttctcccca 60
cgcagcaaca ccagacccaa aacccgcttt tcttcacgct ctggttgctt cgcattcttt 120
ggcttgatct ttctgaactc atcacaatca cagaggatca aattcatatg cttgtcaaaa 180
gccttaaaag tgccaatgaa nattcggcca tcttgcagga tacatctcat tctatagtca 240
atgtgctgca gcatcttgct actnttgccg acagtcatga tngctgttcc accaaatcca 300
angtccacag ttaaaactng angcttntga aaacctaggg gaaggntnta nataaaggtn 360
tnacccaggt tctcctaaaa ncantgcaan ctgggcaaaa accttcaaan agtaaatgga 420
nccnggtttt ngcttggaat caaattcctc gntactccaa tanggtttta ccacctttgg 480
gngtcncagc taaaaaggcc tgcctaanta naccctggaa atccnccacg ggnncttgcc 540
cgggcggccg ntnaaangcc antnccanca cngtggnggc cgntntaggg gaccnganct 600
nggncnaanc ttggcgtaan nggggtcata nntgtccnct ggggaaaaat tgttatccgc 660
tca 663

<210> 51
<211> 803
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 51
tcatgtggca ccaactttgc atactactac ttcatcagct tctacatgct ctgtgccttc 60
ctggtcatca acctctttgt ggctgtcatc atggacaatt ttgactacct cacccgggac 120
tggtccatcc tgggccctca tcacctggat gagttcaagg ccatctgggc agagtatggc 180
ccagaggcta aggggagaat caaacacctg gacgtggtga ccctgctgag aaggattcag 240
ccccctctgg gctttgggaa gttctgccca catcgggtag cttgtaagcg gctggtgggc 300
atgaacatgc ccctgaacag cgacggcaca gtcaccttca atgccacact ctttgccctg 360
gtccgcacgg cactcaagat caagacggaa ggtaactttg agcaggccaa cgaggagctg 420
agggccatca tcaagaagat ctggaagaga accagcatga agctcttgga ccaggtcatc 480
cctccaatag gagatgatga ngtgacagtg gggaagttct acgccacatt cctcatcagg 540
agcacttncg gaagttcatg aaacgccaag angagtatta tggctatcgg ccaagaagga 600
cattgtacct gccgggcggc cgctcgaaag ccgaattcca cacactggcg gccgttacta 660
gtggatccga gctcggtacc aacttggcgt aatcatggnc atactggttc ctgtgtgaaa 720
ttggtatccg ctcacaattt cacacaacat acganccgga agcataaagt gtaaancctg 780
gggtgcctaa tgantgaact ann 803

<210> 52
<211> 746
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 52
cacatgtggc accaactttg catactacta cttcatcagc ttctacatgc tctgtgcctt 60
cctggtcatc aacctctttg tggctgtcat catggacaat tttgactacc tcacccggga 120
ctggtccatc ctgggccctc atcacctgga tgagttcaag gccatctggg cagagtatga 180
cccagaggct aaggggagaa tcaaacacct ggacgtggtg accctgctga gaaggattca 240
gccccctctg ggctttggga agttctgccc acatcgggta gcttgtaagc ggctggtggg 300

catgaacatg cccctgaaca gcgacggcac agtcaccttc aatgccacac tctttgccct 360
ggtccgcacg gcactcaaga tcaagacgga aggtaacttt gagcaggcca acgaggagct 420
gagggccatc atcaagaaga tctggaagag aaccagcatg aagctcttgg accaggtcat 480
ccctccaata ggagatgatg angtgacagt ggggaagttc tacgccacat tcctcatnca 540
ggagcacttt cggaagttca tgaaacgcca agaggagtnt tatggctatc ggcccaagaa 600
ggacattgna cctgnccngg cgggccgttn naaacccaat ttcagcacac tggnggccgt 660
tctaatggat cccanctngg naccaanctt ggcgtaatca tgggcntaac tgnttcctgn 720
ggngaaattg ntatcccctn acaant 746

<210> 53
<211> 456
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 53
tggaattccc ttcggagcgg tgctgggtcc tttcccctgg cacctaagaa agcaaagaag 60
agagccgggg gcgccaactc caacgtgttc tccatgttcg aacagaccca aatccaggaa 120
tttaaggagg ccttcactat catggaccag aacagggatg gcttcattga caagaacgat 180
ctgagagaca cctttgctgc ccttgggcga gtgaacgtga aaaatgaaga aattgatgaa 240
atgatcaagg aggctccggg tccaattaac tttactgtgt tcctcacaat gtttggggag 300
aaacttaagg gancggaccc tgaggaaacc attctcaacg cattcaaagn gtttgaccct 360
gaaggctnag gggtgctgaa ggctnattac gttntggaaa tgctggcang cangctngat 420
aggttttcta ctntttangt tgncagatng tcctct 456

<210> 54
<211> 710
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 54
tgggtccctt cacntggcac ctaagaaagc aaagaagaga gccgggggcg ccaactccaa 60
cgtgttctcc atgttcgaac agacccaaat ccatgaattt aaggaggcct tcactatcat 120
ggaccagaac agggatggct tcattgacaa gaacgatctg agaaacacct ttgctgcctt 180
gggccantga acntgaaaag tgaagaaatt gatgaaatga tcaaggaggc ttccggtcaa 240
ttaactttac tgngttcctc acaatgtttg gggaaaaact taagggancg gaccctgagg 300
aaaccattct caacgcattc aaagtgtttg accctgaagg caaaggggtg ctgaaggccg 360
attaccttcn ggaaatgctg accacgcagc cgaaaaggtt tccaaggang angttgacca 420
natgttcgcc gctttccccc ctgacgtgac tggcaacttt ggactaccag aacctggtgc 480
acatnatnac ccacggagaa aanaangact tggaaggggc tcgcttgttg cnccctgggct 540
tctctttgca aantggtccc tggcctcatc tttttccccc antaccttgc cgggcnccgt 600
tcgaaagccc aattttgcan atttccttaa acttggcggg ccgttcnaac cttcntttta 660
nanggcccaa tttgcccttt agggagtcct attaccaatt nacttggccc 710

<210> 55
<211> 850
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis

Porcine

<400> 55
ntantcttct cggaggcagt gctgggtcct ttcncctggc acctaagaaa gcnagaagag 60
agccgggggc gccaactcca acgtgttctc catgttcgaa cagacccaaa tccaggaatt 120
taaggaggcc ttcactatca tggaccagaa cagggatggc ttcattgaca agaacgatct 180
gagagacacc tttgctgccc ttgggcgagt gaacgtgaaa aatgaagaaa ttgatgaaat 240
gatcaaggag gctccgggtc caattaactt tactgtgttc ctcacaatgt ttggggagaa 300
acttaaggga gcggaccctg aggaaaccat tctcaacgca ttcaaagtgt ttgaccctga 360
aggcaaaggg gtgctgaagg ctgattacgt tcgggaaatg ctgaccacgc aggcggagag 420
gttttccaag gaggaggttg accagatgtt cgccgccttc ccccctgacg tgactggcaa 480
cttggactac aagaacctgg tgcncatcat cacccacgga gaatanaang acttggatgg 540
ggctcgctgc tnngccctgg gctcgtnttt gcanagtggn ccctgcctta tctctcttcc 600
ccgagtacct tgcccgggcg ggncgctcga aagcccgaat tcnncacant gccggcccnt 660
tctagtggga tccaacctcn gtncccaanc ttnggcntat tcnttgncat tatctngttt 720
cctgtgtgaa aattgntntn cngcttacaa atntctcacc annatnacta atccggntac 780
cttaaagntg tttaancttg gggtgcctaa tgtagtgnac ctaacttanc attnatntgc 840
nttngctcnc 850

<210> 56
<211> 832
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 56
attcttctcg gagcagtgct gggtcctttc ccctggcacc taagaaagca aagaagagag 60
ccgggggcgc caactccaac gtgttctcca tgttcgaaca gacccaaatc caggaattta 120
aggaggcctt cactatcatg gaccagaaca gggatggctt cattgacaag aacgatctga 180
gagacacctt tgctgccctt gggcgagtga acgtgaaaaa tgaagaaatt gatgaaatga 240
tcaaggaggc tccgggtcca attaacttta ctgtgttcct cacaatgttt ggggagaaac 300
ttaagggagc ggaccctgag gaaaccattc tcaacgcatt caaagtgttt gaccctgaag 360
gcaaaggggt gctgaaggct gattacgttc gggaaatgct gaccacgcag gcggagaggt 420
tttccaagga ggaggttgac cagatgttcg ccgcttcccc cctgacgtga ctggcaactt 480
ggactacaag aacctggtgc acatcatcac ccacggagaa gagaangact angagggggc 540
tcgctgctgc gccctgggct cgtctttgca nantggtccc tgcctcatct cttntccccc 600
gagtacctgc ccgggcggcc gctcgaaacc gaatttttgc agatatccat cacacttggc 660
gggccgctcg agcatgcatt ntagaggggc ccaattcgnc ctatagtgag tcgtattaca 720
attcatggcc gtngttttac aaacgtctna cttgggaaaa cccttgcgtt cccaacttta 780
tcgnccttga nccattcccc tttttccaan ttggcgtaat ancgaaaaag cn 832

<210> 57
<211> 600
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 57
ttgttcttct cgtgaggcag tgctgggtcc tttccccatg gcacctaaga aagcnaagaa 60
gagagccggg ggcgccactt ccaacgtggt ctccatgttc naccagaacc caaatccaga 120
attttaagga ggcnttnatt ttnntggccc aaaccaggan tggtttattn gccanaacca 180
nnttggaaan cccnttnntt gcctttggcc aatngaccnt gaaaatngan aaattngtta 240
attngtncan ggaggttccg gttcnattna ccttcnggng tccntcacat tgttngggaa 300

aanccttagg gaacngnncc tttgggganc cctttctaan cnntttnnan ngtgttaccc 360
ttttaaggcg caaggggntg ttctaaagnc gcttttnctt tnnggaaatn ntctgcccac 420
ncggggnnta agggtttccc angggggagn gtgnccccat nattctncng cttttncccc 480
ntnngtgnan ttgngnnttt gngntnctat aaancngggg gccnntnttt atcccccccg 540
ggaanaaaag nctttaggg ggggttntnn ttnctccccc nngggntctt ttttttaaa 600

<210> 58
<211> 675
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 58
tcttcncgaa gcagtgctgg gtcctttccc ctggcaccta agaaagcaag gaagagagcc 60
gggggcgtca actccaacgt gttctccatg ttcgaacaga cccaaatcca ggaatttaag 120
gaggccttca ctatcatgga ccagaacagg gatggcttca ttggcaagaa cgatctgaga 180
gacacctttg ctgcccttgg gcgagtgaac gtgaaaaatg aagaaattga tgaaatgatc 240
aaggaggctc cgggtccaat taactttact gtgttcctca caatgtttgg ggagaaactt 300
aagggagcgg accctgagga aaccattctc aacgcattca aagtgtttga ccctgaaggc 360
aaaggggtgc tgaangctga ttacgttcgg gaaatgctga ccacgcaggc ggagaggttt 420
tccaaggagg aggntgacca gatgtcgccn ncttcccct tgacgtnact ggcaactttg 480
gactcnagaa cctggtgccc atnatcaccc acggagaata naaggacttg gangggggct 540
ngcttgttct nccttgggct cgtcttttgn aaagngtccc ttccttatct tntntccccc 600
tatacctggc ccgngcggcc gtttaaaagn cgnaattttn gagattttcc tttaaacttg 660
ccgnccnctt tacct 675

<210> 59
<211> 685
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 59
ttcttctcga ggcagtgctg ggtcctttcc cctggcacct aagaaagcaa ggaagagagc 60
cgggggcgtc aactccaacg tgttctccat gttcgaacag acccaaatcc aggaatttaa 120
ggaggccttc actatcatgg accagaacag ggatggcttc attggcaaga acgatctgag 180
agacaccttt gctgcccttg ggcgagtgaa cgtgaaaaat gaagaaattg atgaaatgat 240
caaggaggct ccgggtccaa ttaactttac tgtgttcctc acaatgtttg gggagaaact 300
taagggagcg gaccctgagg aaaccattct caacgcattc aaagtgtttg accctgaagg 360
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ttccaaggag gaggttgacc agatgttcgc cgncttcccc ctgacgtgac tggcaacttn 480
gactacaaga acctggtgca catcatcacc cacggnngaa gagaangact aggagggggc 540
tcgctgctgc ccctgggctc gtctttgcan aagtggccct gcctcatctn tctccccgnt 600
acctgcccgg gccggtcgtt cnaaagcccn attctgnana tatccatcan actggcggcc 660
gttcgagctt catcttgagg cccca 685

<210> 60
<211> 561
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence

Muscular steatosis
Porcine

<400> 60
tgggtccttt ccctggcacc taagaaagca agaagagagc cgggggcgcc aactccaacg 60
tgttctccat gttcgaacag acccaaatcc aggaatttaa ggaggccttc actatcatgg 120
accagaacag ggatggcttc attgacaaga acgatctgag agacaccttt gctgcccttg 180
ggcgagtgaa cgtgaaaaat gaagaaattg atgaaatgat caaggaggct ccgggtccaa 240
ttaactttac tgngttcctc acaatgtttg gggagaaact taagggagcg gaccctgagg 300
aaaccattct caacgcattc aaagtgtttg accctgaagg caaaggggtg ctgaaggctg 360
attacgttcg ggaaatgctg accacgcagc gganaagttt tccaaggagg aggttgaccc 420
natgttcncc gnctttcccc ctgacgtgac tggnaacttg gactacaaga acctggtgca 480
catnatcacc cccngagaan anaagacttn gaggggggctc ctgntgnncc tggctctntt 540
tcanaanggg cctgccntca t 561

<210> 61
<211> 777
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 61
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ccgggggcgc caactccaac gtgttctcca tgttcgaaca gacccaaatc caggaattta 120
aggaggcctt cactatcatg gaccagaaca gggatggctt cattgacaag aacgatctga 180
gagacacctt tgctgccctt gggcgagtga acgtgaaaaa tgaagaaatt gatgaaatga 240
tcaaggaggc tccgggtcca attaacttta ctgtgttcct cacaatgttt ggggagaaac 300
ttaagggagc ggaccctgag gaaaccattc tcaacgcatt caaagtgttt gaccctgaag 360
gcaaaggggt gctgaaggct gattacgttc gggaaatgct gaccacgcag gcggagaggt 420
ttttcaagga ggaggttgac cagatgttcg ccggcttccc cctgacgtga ctggcaactt 480
ggactacaag aacctggtgc acatcatcac ccacngagaa gaaaaggact agganggggc 540
tcgctgctgc gccctgggct cgtctttgca nantggtccc tgtcctcatc tctttccccg 600
agtccgnctc tgtccctacc ttgctgntac catgtggctg tcccatttat ccactncatc 660
ttctttgcat ctgggtggct atnggtacct gccgggcggc cgntcganaa nttcacacac 720
tgcggccgta ctatggatcc aacttcggtc ccaacttggn gtaatcatgg catactn 777

<210> 62
<211> 890
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 62
caaagataca tgaaatcaat naaagggaaa cttgaagaac agagaccaga aagagtaaaa 60
ccttttatga caggggctgc agaacaaatc aagcacatcc ttgctaattt caaaaactac 120
cagttcttta ttggtgaaaa catgaatcca gatggcatgg ttgctctatt ggactaccgt 180
gaggatggtg tgaccccata tatgattttc tttaaggatg gtttagaaat ggaaaaatgt 240
taacaaatgt ggcaattatt ttggatctat cacctgtcat cataactggc ttctgcttgt 300
catccacaca acaccaggac ttaagacaaa tgggactgat gtcatcttga gctcttcatt 360
tattttgact gtgatttatt tggagtggag gcattgtttt taagaaaaac atgtcatgta 420
ggttgtctaa aaataaaatg catttaaact catttgagag aatgcctttt agtttaatgc 480
atatttaaac taaattgatc ctgtagtgtt cctggagaag ctagagcctg attgtaggct 540
actactcatc aattaacttc tacagtggag actacttctg ggactggaat ataaanaaag 600

aatcaaaggt tctgattttg agttgcaata aaggggaaaa gaccnttgcc tcatagcagt 660
gccaccatct gaagtgtgga accttaccca tttcatnacc tacaanggga agtanttaac 720
tgggaagaga ttaccaagag aattaaaaga anactcattc agtggaanca ananaaaant 780
aaaanaaaaa gcttgtcctg cccggccggn ccttngaaac cgaatttcan cacactggcn 840
gncgtactag tgggatccna nttnngtncn aacntggngt aatcatggcn 890

<210> 63
<211> 771
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 63
tatcaaagat acatgaaatc aatnaaaggg aaacttgaag aacagagacc agaaagagta 60
agacctttta tgacaggggc tgcagaacaa atcaagcaca tccttgctaa tttcaaaaac 120
taccagttct ttattggtga aaacatgaat ccagatggca tggttgctct attggactac 180
cgtgaggatg gtgtgacccc atatatgatt ttctttaagg atggtttaga aatggaaaaa 240
tgttaacaaa tgtggcaatt attttggatc tatcacctgt catcataact ggcttctgct 300
tgtcatccac acaacaccag gacttaagac aaatgggact gatgtcatct tgagctcttc 360
atttattttg actgtgattt atttggagtg gaggcattgt ttttaagaaa aacatgtcat 420
gtaggttgtc taaaaataaa atgcatttaa actcatttga gagaatgcct tttagtttaa 480
tgcatattta aactaaattg atcctgtagt gttcctggag aagctagaac ctgattgtag 540
gctactactc atcaattaac ttctacagtg gagactactt ctgggactgg aatataaaaa 600
agaatcaaag gttctgattt tgagttgcaa taaagggaaa gaccatgctc atagcagtgc 660
caacatctga agtgtggacc ttacccattc atcacctcaa ccggaagtag ttaactggaa 720
gagattaccn agagaattaa angagactca ttcagtggaa gccaaaaaaa a 771

<210> 64
<211> 884
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 64
ntaagaagga gggcatcgag tggacattat tgactttggc atggacctgc aggcctgcat 60
tgacctcatc gagaagccca tgggcatcat gtccatcctg gaagaggagt gcatgttccc 120
caaggccacc gccatgacct tcaaggccaa gctgtttgac aaccacctgg gcaaatccgc 180
caacttccag aagccacgca atatcaaggg gaagcctgaa gcccacttct ccctgatcca 240
ctatgccggc atcgtggact acaacatcat tggctggctt gcagaagaac aagggatcct 300
ctcaatgaga ctgtcgtggg cttgtatcan aagtcttccc tcaagctgnt cagcaccctg 360
gtttgccaac tatgctgggg ctgatgcgcc tattgagaaa gggcaaaggc aaggccaana 420
aaaggctcgt ccntttaaac tgggtcanct tttgcacang ggaaaaatct gaacaagctg 480
atgaccaaac ttggngcntc naccccttcc caattttggn accttgcccg ggccggcccg 540
ttcnaaaagc cnaatttntg gaaantntcc cttnacaant ggngggccgt ttnaaccttg 600
ccnttttnag ggccccaatt nnccctttta gggnggcngt ntnacaaatt aattggccgt 660
gnttttaaaa acntnngnna ttggaaaaaa ccttggggtt tccaatttaa atcnctttgg 720
aaanaaatcc cnttttngcc antgggggtn attccaaana ggccccanct nncccttcca 780
annnngcccc ntnaanggaa angacccccc ttanggnatt aaaccngggg tgngggtncc 840
cnanntactt tnnttncagg cctnangctt ttttttttt tntn 884

<210> 65
<211> 716
<212> DNA

<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 65
gtgctgcnat tgcagccatt ggggaccgca gcaagaagga ccagagcccg ggcaagggca 60
ccctggagga ccagatcatc caggccaacc ctgctctgga ggcctttggc aatgccaaga 120
ccgtccggaa cgacaactcc tcccgcttcg ggaaattcat tcgaattcat tttggggcaa 180
caggaaagtt ggcatctgca gacatagaga cctatcttct ggaaaaatcc agagttattt 240
tccagctgaa agcagagagg gattatcaca ttttctacca aatcctgtct aacaaaaagc 300
ctgagctgct ggacatgctg ctgatcacca acaaccccta cgattatgca ttcatctccc 360
aaggagagac caccgtggcc tccattgatg acgctgagga gctcatggcc actgataacg 420
cttttgatgt gctgggcttc acttcagagg agaaaaactc catgtataag ctgacaaggc 480
gccatcatgc actttggaaa catgaagttc aagctgaagc agcgggaggg agcatgcgga 540
ccagacngna cctgaagagg cttgacaagg tctgcctacc ttatgggggc ttgaactcag 600
ccgacctgtt cannggggctg tccacctcgn ntgaaagtgg gcaatgagta ccctgcccgg 660
gcngtngttn naaatccgnn ttctgnntga tatccatcaa acttggnggt ctgttc 716

<210> 66
<211> 811
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 66
aagatggnat cgagtggaca ttattgactt tggcatggac ctgcaggcct gcattgacct 60
catcgagaag cccatgggca tcatgtccat cctggaagag gagtgcatgt tccccaaggc 120
caccgacatg accttcaagg ccaagctgtt tgacaaccac ctgggcaaat ccgccaactt 180
ccagaagcca cgcaatatca aggggaagcc tgaagcccac ttctccctga tccactatgc 240
cggcatcgtg gactacaaca tcattggctg gctgcagaag aacaaggatc ctctcaatga 300
gactgtcgtg ggcttgtatc agaagtcttc cctcaagctg ctcagcaccc tgtttgccaa 360
ctatgctggg gctgatgcgc ctattgagaa gggcaaaggc aaggccaaga aaggctcgtc 420
ctttcagact gtgtcagctc tgcacaggga aaatctgaac aagctgatga ccaacttgcg 480
ctcacccatc cccactttgt acctgccggg cggncgctcg aaagcccaat tctgcagatt 540
tcatcacact ggcggccgnt cgancatgca tctagagggc ccaattcgcc ctatagtgag 600
tcgtattaca attcactggc cgtcgtttta caacgtcgtg actgggaaaa ccctggcgta 660
cccaacttaa tcgccttgca gcacattccc cttttgccaa ctggcgtaat agcgaanang 720
cccggaccga tcgcccttcc aacaagttgc caacctgaat ggcaatggnc ccccccctgta 780
acggngcatt aaccccggcg ggtgtggtgg n 811

<210> 67
<211> 622
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 67
tttnaagaac cattncatcg agtggacatt cattgactnt ggcatggacc tgcaggcctg 60
cattgacctc atcgagaagc ccatgggcat cntgtccatc ctggaagaag gagtgcatgt 120
tcccnanggc caccgccatg accttcaagg ccaagntgtt tgacaaccac ctgggcaaat 180

ccgccaactt ccaaaancca cgcaatatca aggggaagcc tgaagcccac ttctccctga 240
tccactatgc cggcatcgtg gactacaaca tcattggctg gctgcaataa gaacaaggat 300
cctctcaatg acactgtcgt gggcttgtat canaagtntt cccttaagct gctnancacc 360
ctgtttgnna nctatgctgg ggctgatgcc cntattgana ngggcaaagg gcaaggccaa 420
naaaggctcg ccttttcaga cttgtgtcag ctctncacca gggaaaantn tgacaaatct 480
gattgnccaa ttttgcgctn nacccntccc caantttngg nacctngccn nggncgggcc 540
gnttcnaaaa gcccnatttt tgnaanattt ccnatcanat tggncggncg ttngaacttt 600
gccattttag aggggcccaa tc 622

<210> 68
<211> 784
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 68
agatcttaag ccttgctttg gctatgaagg tgatatctta ccaactttac tgttcctcct 60
tgaggttttt caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttgttcc 120
tccccaggag gagtttcnac aagggtccag tctgaatctt ttctctccag ggcccgacta 180
cccaaacctg gaggcaaggc gctnggcggg gagacttcct cttcatcttt tgctggtgta 240
gtccggcctc cttctcttta cttggntctt ccgggggtgg ggctggggct ggcacttcat 300
tttcctcttt cttagtgggt tctggcatgg ccacaataag atgttattct ttaaagagtc 360
tccttccctc cacgactaag tttgacagaa accccacagg caggccaaga gacctgcccg 420
ggcngccgct cgaaagccga attccagcnc actggcggnn cgttctagtg gaatcganct 480
cggtaccaaa gctttggcgt aaatcatggn gcatagctgg ttcctgtgtn naaattgtta 540
tccggntnnc aattnacann aactttcgaa nccggaagct taaagtgtta aagcctgggg 600
ngccnaaatg angtgagctt acttaacatt aaattngcnt ttgctctnac ttgnccgctt 660
tccagtcngg aaaccttggt tagccnacct nncttnaatg aaantggcca ncgccccgng 720
ganaagnang tatgagnttt ngncgcnctt tccncttcct tncttcattg ctttttntct 780
tcng 784

<210> 69
<211> 752
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 69
atcccgatgt gcctctcaag gtttccttca gctgaaggtg cttcccggct ttgctggcca 60
ggtccatcca ttttcctttg aaccatttga tagtgggttt tctcanaaga tcttcagcct 120
tgactttggc tatgaaggtg atatcttcac caactttcac tgttcctcct tgaggttttt 180
caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttgttcc tccccaggag 240
gagtttcgac aagggtccag tctgaatctt ttctctccag ggcccgacta cccaaacctg 300
gaggcaaggc gctaggcggg gagacttcct cttcatcttt tgctggtgta gttccggcct 360
ccttctcttt acttggttct tccgggggtg gggctggggc tggcacttca ttttcctctt 420
tcttagtggg ttctggcatg gccacaataa gatgttattc tttaaagagt ctccttccct 480
ccacgactag ttgacagaaa ccccacaggc aggcgaanag acctgcccng gcggccgttn 540
naaagccgaa ttccacacac tgcggncnta ctagtggatc ccatgctcgg taccaagctt 600
ggcgtaanca ttggtcntaa nctgattcct gtgtgaaatt gtntccgctt cacaatntcc 660
ncaccaacat acgaacccgg aagcattaaa ntgtaaaagc ctggggtgcc taatgagtga 720
nctaantcac attaattccg ttgtgctnat tg 752

<210> 70

<211> 676
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 70
atnccgatgt gcctctcaag gtttccttca gctgaaggtg cttcccggct ttgctggcca 60
ggtccatcca ttttcctttg aaccatttga tagtgggttt tctcagaaga tcttcagcct 120
tgactttggc tatgaaggtg atatcttcac caactttcac tgttcctcct tgaggttttt 180
caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttgttcc tccccaggag 240
gagtttcgac aagggtccag tctgaatctt ttctctccag ggcccgacta cccaaacctg 300
gaggcaaggc gctaggcggg gagacttcct cttcatcttt tgctggtgta gttccggcct 360
cctttctttt acttggttct tccgggggtg gggctggggc tggcacttca ttttcctctt 420
tcttagtggg ttctggcatg gccacaataa gatgttattc tttaaagagt ctccttccct 480
ccacgactag ttgacagaaa ccccacaggc aggcgataga cctgcccngg ccggncgntc 540
naaagccgaa ttccagcaca ctggccggnc gttactagtg gatccgaact cggtaccaag 600
cttggcngta tcatggtcat agctgttccc tgngtgaaat ggtatccgct tacaanttcn 660
cacaacatac nanccg 676

<210> 71
<211> 620
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 71
atnccgatgt gcctctcaaa gtttccttca gctgaangtg cttcccggct ttgctggcca 60
ggtccatcca ttttcctttg aaccatttga tagtgggttt tctcagaaga tcttcagcct 120
tgactttggc tatgaaggtg atatcttcac caactttcac tgttcctcct tgaggttttt 180
caatgaacaa gatggacagc tgggagttgg cattctgctt ggcttgttcc tccccaggag 240
gagtttcnac aagggtccag tctgaatctt tctctccagg gcccgactac ccaaacctgg 300
aggcaaggcn ctaggcgggg anacttcctc ttnatctttg ctggggaagt ccggcctcct 360
tctctttact tggtncttnc gggggtgggg ctggggcngg cacttnattt tcctctttct 420
aaggggggttc tggcatggcc ncaataagaa ggttttnttt aaaaagtntc ctttcctttn 480
acnaattgtt gancanaaac cccacaggcg ggcaaaaacc ttnccggggg ccentttaaaa 540
acccaattnt gcaaaantcc tnaaaatngg gggcctttaa nccttntttt aaangggccc 600
aattcccccn tatnggggggc 620

<210> 72
<211> 736
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 72
tcccgangtn cctctcaagg tttccttcag ctgaaggtgc ttcccgcttt gctggccagg 60
tccatccatt ttcctttgaa ccatttgata gtgggttttc tcanaaganc ttnancentg 120
actttggcta tnaaggngat atcttcacca actttcactg ggtcctcctt gaggggtttt 180
caaatgancn agatggacac ncttngaaat tggcattttg cntggntttg gtcctcncca 240

ggaangagat tcgacanagg gnncncnctg aaacttttct ttcaagggnc caatntccca 300
aacctggnag gcaaagngct tttggcgggg anaacttccn ctttaaactt tttgctgggg 360
ggtaaattcc gggcnccttt ttctttaann tnggggcntt ccgggggggg gggctngggc 420
tggnnnnttn attntccccc ttttntaaan gggntcntgg gattgtngcc acaanaagga 480
tgttnttcnn taaagangtc tcctttcctc aacaactagt tganannenc ccgcaggcna 540
agnaanatac cctgnccggg cggtcgataa gaaagcctaa ttccaacagg actggcgncn 600
ttactnantg natcccnagc tccgnaacca nngctnggnn nnaagtcatg ggncatacnn 660
ttncctnaaa aaaattgctn ttccnctcac aaattccaca cancattcng anccggaaag 720
cattaaaagn gtaaag 736

<210> 73
<211> 400
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 73
tnacccgatg tgcctctcaa ggtttccttc agctgaangt gcttcccggc tttgctggcc 60
aggtccatcc attttccttt gaaccatttt gatagtgggg tttcttaaga aagaacttta 120
nccctttgact ttngctatna aaggngaaat ttttaaccac ntttantggt ccttcctgaa 180
ggttttcaat ggaccagaan ggccacttgg aattngcant cngnttggct tggtccntcc 240
caagaaggna nttccaacag ggnncnnctg gnantntttt ttttcaaggg ccnaattncc 300
aaanctggan gnnanggccn tngggnggga aaattccctt taaatttttg ncgggggaat 360
tccggnccce tttntttacn ggggtnttcc cggggnnggc 400

<210> 74
<211> 685
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 74
atttggagga aagaaaaaga ccacacttgg gggcctggtg ggaaaacaga aaatgctttt 60
tctcatttca accanatttc aaagcagcan agtgcanana gacagtnncc aggccctncc 120
ccagtattcc tcaggattgc ttgagtgtaa gtctcgcana tncnaatnaa ctatgtttgg 180
aggtacctgc ccgggcggcc gctnnaancc gaattctgca aatatccatc acactggcgg 240
ccgntcgagc atgcntntan agggcccaat tcgccctata gngagtcgta ttacaattca 300
ctggccgtcg ttttacaacg ttcgtgactg ggaaaaccct ggngttccca acttaatcgc 360
cttgcancaa antccccttt nccagtggcg tnaatancga anaggcccga accgatngcc 420
tttccaacan nttgctgcan ccttgaatgg cnaatggacn cgcctttanc ggngcattaa 480
gcncggcngt tntggtggtt acccncatcg ngaccgntnc antttgccan ngccctaang 540
cccnttcttt tngntttctt cccttctttt ttgccacgtt tgccggtttc cccgtaaanc 600
ttttaaatnn gggggctccc tttanggntc ccanttannng nttttcgggga ccttngaccc 660
caaaaacntg natnnggggg aaggg 685

<210> 75
<211> 764
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis

Porcine

<400> 75
ccaactaatc cgtggcaaat accagattaa ttttacttta tttcttcagg cctggggttt 60
ttcgatgact tcaaatttgg gatcttcaaa tttgaaggtg ggaaatgtat tcatgtctgc 120
attaccaaac atttgcttga gcttaaaaag ctccctctcc agctcttgct gatactctga 180
actagcatca acaggtcctc cagatgtctg tcgcttagat ttgtattctc taatcttgtc 240
cacaaagagt ttctgtatag gatcaagttc cttattaaat gccactgctg taacaccaat 300
gttcctccgc aaatggactg agacggctga ccgaatgaca gaggagaacc tgaagagcct 360
ctgaagaatc atgctgattc ttgcactcag tcccgagctg ccaaagcctc cgccgtcacc 420
acctgcccgg gcggccgctc gaaagccgaa ttctgcagat atccatcaca ctggcggncg 480
ctcgagcatg catctagagg gcccaattcn ccctatagtg agtcgtatta caattcactg 540
gccgtcgttt tacaacgtcg tgactgggaa aaaccctggc gttacccaac ttaatccgcc 600
ttggaacaac attnccccct tcgccagctn ggcgtaatta ncnaaaaaag gcccgnaccg 660
gatcggccct ttcccacann ttggcncaag cctggaatgg gcnaaatggg ccccccccct 720
ntaaccgggn gcatttaaac cccggcgggt tgtgggtggt tacc 764

<210> 76
<211> 486
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 76
ttgaaatatc caataagagg aagtttgtcg ctgatggcat cttcaaagct gaactgaatg 60
agtttcttac tcgggagctg gctgaagatg gctactctgg agttgaggtg cgagttacac 120
caaccaggac agaaatcatt atcttagcca ccagaacaca gaatgttctt ggtgagaagg 180
gccggcggat tcgggaactg actgctgtag ttcagaagag gtttggcttt ccagagggca 240
gtgtagagct ttatgctgaa aaggtggcca ctagaggtct gtgtgccatt gcccaggcag 300
agtctctgcg ttacaaactc ctaggagggc ttgctgtgcg gagggcctgc tatggtgtgc 360
tgcggttcat catggacagt ggggccaaag gctgcgatgt tgtggttgtc tgggaaactt 420
cctaggacan aggnctnant ncatgaactt tgtggatggc cntgatnaan ctcaantgag 480
accctg 486

<210> 77
<211> 822
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 77
nttnaaatat ccaataagag gaagtttgtc gctgatggca tcttcaaagc tgaactgaat 60
gagtttctta ctcgggagct ggctgaagat ggctactctg gagttgaggt gcgagttaca 120
ccaaccagga cagaaatcat tatcttagcc accagaacac agaatgttct tggtgagaag 180
ggcccggcgg attcgggaac tgactgctgt agttcagaaa gaaggttggc ttttccagaa 240
ggcagtgtaa actttatgct tgaaaagggt ggcccttaaa ggtctgtggt nccttttgccc 300
agccaaagtt tttgcgttnc aaacttccta gnaggcttgc tgtccgaagg gcntgttttg 360
gggtnctgcg gttnatcntg gaaagtgggn ccaaaggntg caaggttgtg ntgtntggaa 420
anntccaagg ncaaagggnt aantccntga atttggngga tggcctgatn atccncagcg 480
nnaacccttg ttaantatta cgttgaccct gttgccccnc tgttngntaa aacagggtnc 540
ctgggcttta agggaaaaaa tcntgctgct tgggacccan tttggtaaaa ttggccctaa 600
aaaccctttg nntgaccang tgnccttttgg gaaccccaaa natgaaantt tgcccccccac 660
ccnnttttaa aacaaaaggg nnggaaaccc aaaccccttt ntttgccnaa nccnntcccc 720

anatttaacn gggtttcctt ggnatttntt ttnnggnatt cnggatnngc tnttnaaacc 780
cctttaaaaa anttttcccc tcccgngggg nnttaaaaac ct 822

<210> 78
<211> 618
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 78
tcacatagaa gnagtgtggc acagggctgg aggaaaggtg ttctaccccc tcctcctcct 60
ccacttgtta caccacgggg tggctgagaa gccccaggtg cctcatgggt ggatagaagc 120
ccaccctgcc agggtgaggt cttcagacac tcgcgttttt cctgcctctt ggatatctgt 180
ttaatcccag ttccagagga gggcatgcag gctggaggga agaagtgggg gagaggtggg 240
aagggatgca cctgcccggg cggccgctcg aaagccgaat tccagcacac tggcggccgt 300
tactagtgga tccgagctcg gtaccaagct tggcgtaatc atggtcatag ctgtttcctg 360
tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgta 420
aagcctgggg tgcctaatga gtgagctaac tcacattaat tgcgttgcgc tcactgcccg 480
ctttccagtc gggaaacctg tcgtgccagc tgcattaatg aatcggccaa cgcgcgggga 540
aaagccggtt tgcgtattgg gcgctcttnc gcttnctcgc tcactgactc gctgcgcttn 600
ggtcnttccg gnttcggc 618

<210> 79
<211> 524
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 79
gttcacatac aagagtgtgg cacagggctg gaggaaaggt gttctcaccc ccttcttctc 60
ctccacttgt tacaccacgg ggtggctgag aagccccagg tgcctcatgg gtggatagaa 120
gcccaccctg ccagggtgag gtcttcagac actcgcgttt ttcctgcctc ttgggtatct 180
gtttaatccc agttccagag gagggcatgc aggctggagg gaagaantgg gggagaggtg 240
ggaagggatg tacctgcccg ggcggccgct cgaaagccga attccagcac actggcggcc 300
gttactantg gatccnagct cggtaccaag cttggcgtaa tcatggtcat agctgtttct 360
gtgtgaaatt gttatccgtc acaattccac acaacatacg aacccggaac ataaagcgta 420
aacctggggt gcctaatgag tgagctaact cacattaatt gcgttgcgct cactgcccgc 480
tttccantcg ggaaacctgt cntgccaact gcatttaatg aatc 524

<210> 80
<211> 817
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 80
tcacatagaa gtagtgtggc acagggctgg aggaaaggtg ttctaccccc tcctcctcct 60
ccacttgtta caccacgggg tggctgagaa gccccaggtg cctcatgggt ggatagaagc 120
ccaccctgcc agggtgaggt cttcagacac tcgcgttttt cctgcctctt gggtatctgt 180

ttaatcccag ttccagagga gggcatgcag gctggaggga agaagtgggg gagaggtggg 240
aagggatgca cctgcccggg cggccgctcg aaagccgaat tctgcagata tccatcacac 300
tggcggccgc tcgagcatgc atctagaggg cccaattcgc cctatagtga gtcgtattac 360
aattcactgg ccgtcgtttt acaacgtcgt gactgggaaa accctggcgt tacccaactt 420
aatcgccttg cagcacatcc cctttcgcc agctggcgta atagcgaaga ggcccgcacc 480
gatcgccttc ccaacagttg cgcagcctga atggcgaatg gacgccctg tancggcgca 540
ttaacgcggc gggtgtggtg ggttacgcgc acgtgaccgc tacacttgcc agcgccctaa 600
cgcccgctcc tttcgctttc ttccttcctt tctcgccacg ttcgccggct ttccccgtca 660
agctcttaaa tcgggggctc cctttanggt tncgattaat gcttttacgg naccttgacc 720
ccaaaaaact tgattagggt gatgggtcac gtantgggcc atngccctga tanacggttt 780
ttcgcctttt gacgttggaa tcacgttctt taaatan 817

<210> 81
<211> 622
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 81
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acttgttaca ccacggggtg gctgagaagc cccaggtgcc tcatgggtgg atagaagccc 120
accctgccag ggtgaggtct tcagacactc gcgtttttcc tgcctcttgg gtatctgttt 180
aatcccagtt ccagaggagg gcatgcaggc tggagggaag aagtggggga gaggtgggaa 240
gggatgcacc tgcccgggcg gccgctcgaa agccgaattc tgcagatatc catcacactg 300
gcggccgctc gagcatgcat ctagagggcc caattcgccc tatagtgagt cgtattacaa 360
ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac cctggcgtta cccaacttaa 420
tcgccttgca gcacatcccc ctttcgccag ctggcgtaat ancgaanagg cccgcaccga 480
tcgccttcca acagttgcca cctgaatggc gaatggacgc gccctgtanc ggggcattaa 540
gcgcggcggg tgtggtggnt acncgcacgt gaccgttcac ttgcagcgcc ctacgcccgt 600
tctttngctt tcttcccttc ct 622

<210> 82
<211> 574
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 82
ntcacatagc aaggagtgtg gcacagggct ggaggaaagg tgttctaccc cctcctcctc 60
ctccacttgt tacaccacgg ggtggctgag aagccccagg tgcctcatgg gtggatagaa 120
gcccaccctg ccagggtgag gtcttcagac actcgcgttt ttcctgcctc ttgggtatct 180
gtttaatccc agttccagag gagggcatgc aggctggagg gaagaagtgg gggagaggtg 240
ggaagggatg cacctgcccg ggcggccgct cgaaagccga attccagcac actggcggcc 300
gttactagtg gatccgagct cggtaccaag cttggcgtaa tcatggtcat agctgtttcc 360
tgtgtgaaat tgttatccgc tcacaattcc acacaacata cgagccggaa gcataaagtg 420
taaagcctgg ggtgcctaat gagtgagcta actcacatta attgcgttgc gctcactgcc 480
gctttcagtc gggaaacctg tcgtgccagc tgcattaatg aatcggncaa cgcgcggggg 540
agaggcggtt tgcgtattgg gcgctcttcc gctt 574

<210> 83
<211> 495
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 83
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tccacttgtt acaccacggg gtggctgaga agccccaggt gcctcatggg tggatagaag 120
cccaccctgc cagggtgagg tcttcagaca ctcgcgtttt tcctgcctct tgggtatctg 180
tttaatccca gttccagagg agggcatgca ggctggaggg aagaagtggg ggagaggtgg 240
gaagggatgc acctgcccgg gcggccgctc gaaagccgaa ttctgcagat atccatcaca 300
ctggcggncg ctcgacatgc atctagaggg cccaattccc ctatagtgag tcgtattaca 360
attcactggc cgtcgtttta caacgtcntg actgggaaaa ccctgcggta cccaacttaa 420
atcgctttga ncacatnccc cttttcgcca gcttggcgta atagccaaan aggcccgnac 480
cgatcgccnt tccca 495

<210> 84
<211> 543
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 84
atcacatagc aagnagtgtg gcacagggct ggaggaaagg tgttctcacc ccctcctcct 60
cctccacttg ttacaccacg gggtggctga gaagccccag gtgcctcatg ggtggataga 120
agcccaccct gccagggtga ggtcttcaga cactcgcgtt tttcctgcct cttgggtatc 180
tgtttaatcc cagttccaga ggagggcatg caggctggag ggaagaagtg ggggagaggt 240
gggaagggat gcacctgccc gggcggccgc tcgaaagccg aattctgcag atatccatca 300
cactggcggc cgctcgagca tgcatctana gggcccaatt cgccctatag ttgagtctgt 360
attacaattc actggccgtc gttttacaac gtcgtgactg ggaaaaccct ggcgttaccc 420
aacttaatcg ccttgcagca catnccccct tcccagctgg cgtaattanc taataagccc 480
gnacncgatc gcccttccca annttgctc agtctgaatg gcgaattgga cgcgccctgt 540
agc 543

<210> 85
<211> 617
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 85
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acttgttaca ccacggggtg gctgagaagc cccaggtgcc tcatgggtgg atagaagccc 120
accctgccag ggtgaggtct tcagacactc gcgtttttcc tgcctcttgg gtatctgttt 180
aatcccagtt ccagaggagg gcatgcaggc tggagggaag aagtggggga gaggtgggaa 240
gggatgcacc tgcccgggcg gccgctcgaa agccgaattc tgcagatatc catcacactg 300
gcggccgctc gagcatgcat ctagagggcc caattcgccc tatagtgagt cgtattacaa 360
ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac cctggcgtta cccaacttaa 420
tcgccttgca gcacatcccc ctttcgccag ctggcgtaat ancgaanagg cccgcaccga 480
tcgccttcca acagttgcca cctgaatggc gaatggacgc gccctgtanc ggggcattaa 540
gcgcggcggg tgtggtggnt acncgcacgt gaccgttcac ttgcagcgcc ctacgcccgt 600
tctttngctt tcttccc 617

<210> 86
<211> 628
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 86
ttgcgagact nagccctgca gaactggagg aggccgagaa ggcggctgat gagagcgaga 60
gaggaatgaa ggtcatcgaa aaccgggcca tgaangatga ggagaagatg gaactgcagg 120
agatgcagct gaaggaggcc aagcacatcg ctgaggattc agaccgcaaa tatgaagagg 180
tggccaggaa gctggtgatc ctggaaggag agctggagcg ctcggaggag agggctgagg 240
tggccgagag taaatgtggg gacctagagg aggagctgaa aattgttacc aacaacttga 300
gatcccagga ggcccaggcg gacaagtatt ccaccaaaga agataaatat gaagaggaga 360
tcaaactgtt ggaggagaag ctgaaggagg ctgagacccg agcagagttt gccgagaggt 420
ctgtggcaaa gttggagaaa accatcgatg acctagaaga tgaagtctat gcccagaaga 480
tgaagtacct gcccgggcgg ccgctcgaaa gccgaattct tgcagattat ncatcacact 540
ggcgggccgc tcgagcatgc atcttanagg ggccccaatt cgcccttnta gtgagttcng 600
tattacaatt nacttggccg gtcgtttt 628

<210> 87
<211> 588
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 87
ncgagtctna gccctgcaga actggaggag gccgagaagg cggctgatga gagcgagaga 60
ggaatgaagg tcatcgaaaa ccgggccatg aaggatgagg agaagatgga actgcaggag 120
atgcagcttg aaggaggcca agcacatcgc tgaggattca gaccgcaaat atgaagaggt 180
ggccaggaag ctggtgatcc tggaaggaga gctggagcgc tcggaggaga gggctgaggt 240
ggccgagagt aaatgtgggg acctagagga ggagctgaaa attgttacca acaacttgaa 300
atccctggag gcccaggcgg acaagtattc caccaaagaa gatnaatatg aagaggagat 360
caaactgttg gaggagaagc tgaaggaggc tganacccga gcagagtttg ccgagaggtc 420
tgtggcaaag ttggagaaaa ccatcgatga cctagaagat gaagtctatg cccagaagat 480
gaagtacctg ccgggcggnc gctcnaaagc cgaattccag cacactggcg gccgttctag 540
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<210> 88
<211> 685
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 88
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agaggaatga aggtcatcga aaaccgggcc atgaatgatg aggagaagat ggaactgcag 120
gagatgcagc tgaaggaggc caagcacatc gctgaggatt cagaccgcaa atatgaagag 180
gtggccagga agctggtgat cctggaagga gagctggagc gctcggagga gagggctgag 240

gtggccgaga gtaaatgtgg ggacctagag gaggagctga aaattgttac caacaacttg 300
agatcccagg aggcccangc ggacaagtat tccaccaaag aagataaata tgaagaggag 360
atcaaactgt tggaggagaa gctgaaggag gctgagaccc gagcagagtt tgccgagagg 420
tctgtggcaa agttggagaa aaccatcgat gacctagaag atgaagtcta tgcccanaag 480
atgaagtacc tgcccgggcg gncgctcnaa agccgaattc tgcagatatc catcacactg 540
gcgggcgctc gagcatgcat ctagagggcc caatttcgcc ctatagtgag tccgtattac 600
aaattcactg gcccgtcgtt tttacaaccn tcgtgacttg gggaaaaccc ttggccgnta 660
ccccaacctt aaatcgncct tgcaa 685

<210> 89
<211> 458
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 89
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cgagagagga atgaaggtca tcgaaaaccg ggccatgaag gatgaggaga agatggaact 120
gcaggagatg cagctgaagg aggccaagca catcgctgag gattcagacc gcaaatatga 180
agaggtggcc aggaagctgg tgatcctgga aggagagctg gagcgctcgg aggagagggc 240
tgaggtggcc gagagtaaat gtggggacct agaggaggag ctgaaaattg ttaccaacaa 300
cttgaaatcc ctggaggccc aggcggacaa gtattccacc aaagaagata aatatgaaga 360
ggagatcaaa ctgttggagg agaanctgan ngaggctgat acccgacaga gcttgccgan 420
aggtctgtgg cnaatttgga gatnccatcg attgacct 458

<210> 90
<211> 740
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 90
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gagagaggaa tgaaggtcat cgaaaaccgg gccatgaagg atgaggagaa gatggaactg 120
caggagatgc agctgaagga ggccaagcac atcgctgagg attcagaccg caaatatgaa 180
gaggtggcca ggaagctggt gatcctggaa ggagagctgg agcgctcgga ggagagggct 240
gaggtggccg agagtaaatg tggggaccta gaggaggagc tgaaaattgt taccaacaac 300
ttgaaatccc tggaggccca ggcggacaag tattccacca aagaagataa atatgaagag 360
gagatcaaac tgttggagga gaagctgaag gaggctgaga cccgagcaga gcttgccgag 420
aggtctgtgg caaagttgga gaaaaccatc gatgacctag aagatgaagt ctatgcccag 480
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tagtggatcc gagctcggtc caagcttggc gtaatcatgg tcatagctgn ttcctgtgtg 600
aaattggtat ccgctcacaa ttccacacaa catacgagcc ggaacntaaa gtgtaaacct 660
ggggtgccta atgagtgagc taactccatt aattgcgttg cgctcactgg ccgntttcca 720
tcgggaaacc tgtcgtgcca 740

<210> 91
<211> 716
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence

Muscular steatosis
Porcine

<400> 91
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aggaatgaan gtcatcgaaa accgggccat gaangatgag gagaagatgg aactgcngag 120
angcagctga aggaggccaa gcacatcgct gaggattcag accgcaaata tgaagaggtg 180
gccaggaagc tggtgatcct ggaaggagag ctggagcgct cggaggagag ggctgaggtg 240
gcccgagagt aaatgtgggg acctanagga ngagctgaaa attgttacca acaacttgaa 300
atccctggag gcccangcgg acaagtattc caccaaagaa gataaatatg aagaggagat 360
caaactgttg gaggagaagc tgaaggaggc tganacccna cagagtttgc gagaggtctg 420
tggcaaagtt tggagaaaac catcgatgac ctagaagatg aagtctatgc ccagnaagat 480
gaagttcctt gcccggggcn gccgttcgaa agccgaattn tgcanatntc catcacactg 540
ncnggccgnt cgagcatgca tttagagggc ccaattcgcc ctatagtgag tcgtattaca 600
attcactggc cgcntttaca acngtctgtg actgggnaaa accctggcgg ttcccaactt 660
aatnnccttg ctcnnattnc ccttttcgcc acttggcgtt aataccnaaa aaggcc 716

<210> 92
<211> 853
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 92
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actttgctag gaccaggttg gctgctgatg tgggcaaggg cgccgcccag cgtgagttcc 180
atggtctggg cgactgtatc atcaagatct tcaagtctga tggcctgagg gggctctacc 240
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atgatactgc caaggggatg ctgcctgacc ccaagaacgt gcacattttt gtgagctgga 360
tgattgccca gagtgtgacg gcagtcgcag ggctggtgtc ctaccccttt gacactgttc 420
gtcgtagaat gatgatgcag tccggccgga aaggggccga tattatgtac ctgcccgggc 480
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taccaagctt ggcgtaatca tggtcatagc tgtttctgtg tgaaattggt atccgntcac 600
aattccacac aacatacnag ccggaagcat aaagtgtaaa gcctgggggt gcctaatgag 660
tgagctaact cnacattaat tgcgttgcgc tcactgnccc gntttccang tnggggaaaa 720
cctgtcgtgc caacctgcat taatgaaatc gggcaacgtc ccggggaana aggccggttt 780
ggcgtattng ggcgcctctt ccgncttcct tgntcactng acttcnttgc ncttcggtca 840
nttcgnttgn ggc 853

<210> 93
<211> 788
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 93
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aacctggcgt ccggtggggc ccgctggggc cacctccctt tgctttgtct acccgctgga 120
ctttgctagg accaggttgg ctgctgatgt gggcaagggc gccgcccagc gtgagttcca 180
tggtctgggc gactgtatca tcaagatctt caagtctgat ggcctgaggg ggctctacca 240
gggtttcaac gtctctgtcc aaggcatcat tatctataga gctgcctact tcggagtcta 300
tgatactgcc aaggggatgc tgcctgaccc caagaacgtg cacattttg tgagctggat 360

gattgcccag agtgtgacgg cagtcgcagg gctggtgtcc tacccctttg acactgttcg 420
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gccgctcgaa agccgaattc tgcagatatc catcacactg gcggccgctc gagcatgcat 540
ctagagggcc caattcgccc tatagtgagt cgtattacaa ttcactggcc gtcgttttac 600
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ttcgccagct ggcgtaatag cnaaaagccc gnaccgatcg ccctttccaa cagttgcgca 720
acctgaatgg cgaatggacc ccccttgtac cggngcatta ancgccgcgg gtgtggtggg 780
tacccccа 788

<210> 94
<211> 593
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 94
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tcctcagacg ccttcatctc gtcctctgac ttcaggtgct tgaacttgtc aaacttctcc 180
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tgcatctaga gggcccaatt cgccctatag tgagtcgtat tacaattcac tggccgtcgt 420
tntacaacgt ctgtgactgg gaaaaccctg gcgttaccca acttaatcgg ccttgcagct 480
acatcccccc ttcgccagct ggcngttaat atgcgaaana ggcccgnacc cgntccgccc 540
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<210> 95
<211> 523
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 95
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agaaagtgaa ggagggcagg ggaggggggac agcgagccat tgagcgatct ttgtcaagca 120
tcccagaaga ctgcgccatg gggctcagcg acggggaatg gcagttggtg ctgaacgtct 180
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agatgaaggc gtctgaggac ttaaagaagc atggtgccac cgtgctcacc gccctgggtg 360
gcatccttaa naagaanggg catcatgagg catagattaa gcccctggca cagtcgcatg 420
ccaccnanca caanatcccg tgaagtacct gcacgggccn gccgcttgaa agccgaattc 480
caacncactg gcngtcgttc tagtggatcc tagctcgttc caa 523

<210> 96
<211> 659
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 96
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agagagaaag tgaaggaggg caggggaggg ggacagcgag ccattgagcg atctttgtca 120
agtatcccag aagactgcgc catggggctc agcgacgggg aatggcagtt ggtgctgaac 180
gtctgggggа aggtggaggc tgacatccca ggccatgggc aggaagtcct catcaggctc 240
tttaagggtc acccagagac tctggagaag tttgacaagt tcaagcacct gaagtcagag 300
gacgagatga aggcgtctga ggacttaaag aagcatggtg ccaccgtgct caccgccctg 360
ggcggcatcc ttaanaanaa ggggcntnat gaggcanaga ttaancccct gcacagtcgn 420
atgccaccaa gcacaagatc cccgtgttgt acctgcccgg gcggccnntn naagccnaat 480
tctgaagata tccatcacac tggcggccgc tcnancatgc atntagaggg cccanttccc 540
ctatagngag tcntattcaa ttcagtgccg ttnttttaca cgtnntgact gnnaaaccnt 600
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<210> 97
<211> 843
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 97
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tcacccccat gatgggtgtc ctggacggtg tcctaatgga actgcaagac tgtgcccttc 120
ccctcctgaa agatgtcatc gcaacagata aagaagacgt tgccttcaaa gacctggatg 180
tggccattct tgtgggctcc atgccaagaa gggaaggcat ggagagaaaa gatttactga 240
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cagttaaggt tattgttgtg ggtaatccag ccaataccaa ctgcctgact gcttccaagt 360
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gctaaagctc aaattgctct taaacttggt gtgactgcta atgatgtaaa gaatgtcatt 480
atctggggaa accattcctc gactcagtat tcaagatgtc aaccatgcca aggtgaaatt 540
gcaaaggaaa ggaaatttgg tgtttatgaa gctctgaaag atgacagctg gctcagggga 600
gaattttgtc acgactgtgc aacancgtgg cgcttgctgg cattcaaggc ttcgaaactn 660
ttccantgcc nttgtctgct tgcaaaancc atctgtgacc nccgttaggg acattttggt 720
ttggaacccc cnaagggana agtttngttc nttgggtggt atctntgatg gcaactctnt 780
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tgn 843

<210> 98
<211> 767
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 98
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ggatatcacc cccatgatgg gtgtcctgga cggtgtccta atggaactgc aagactgtgc 120
ccttcccctc ctgaaagatg tcatcgcaac agataaagaa gacgttgcct tcaaagacct 180
ggatgtggcc attcttgtgg gctccatgcc aagaagggaa ggcatggaga gaaaaggttt 240
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gaagtcagtt aaggttattg ttgtgggtaa tccagccaat accaactgcc tgactgcttc 360
caagtcagct ccatccatcc ccaaggagaa cttcagttgc ttgactcgtt tggatcacaa 420
cccgagctaa agctcaaatt gctcttaaac ttggtgtgac tgctaatgat gtaaagaatg 480
tcattatctg gggaaaccat tcctcgactt antatncaga tgtcaaccat gccaaggtga 540

aattgcaagg aaaggaagtt ggtgtttatg aaactctgaa agatgacagc tggctcaang 600
gaaaaatttt cacgactgtg caacaaccgt ggcgcttgct gtcatcaagg ctcgaaacta 660
ttcagtgcca tgtntgctgc aaaagccctt ctgggaacac cttanggaca ttttggtttg 720
gaaccccnaa aggganantt tgggtccatt gggtgtaatc tctnang 767

<210> 99
<211> 615
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 99
nagtattgga aatggatctg tctttggtaa agatcagcct ataattcttg tgctgttgga 60
tatcaccccc atgatgggtg tcctggacgg tgtcctaatg gaactgcaag actgtgccct 120
tcccctcctg aaagatgtca tcgcaacaga taaagaagac gttgccttca aagacctgga 180
tgtggccatt cttgtgggct ccatgccaag aagggaaggc atggagagaa aagatttact 240
gaaagcaaat gtgaaaatct tcaaatccca gggtgcagcc ttagataaat acgccaagaa 300
gtcagttaag gttattgttg tgggtaatcc agccaatacc aactgcctga ctgcttccaa 360
gtcagctcca tccatcccca aggagaactt cagttgcttg actcgtttgg atcacaaccg 420
agctaaagct caaattgctc ttaacttggt gtgactgcta atgatgtaaa naatgcatta 480
tctggggaaa ccattcctcg actcagtatc caaatgtcaa ccatgccaag gngaaattgc 540
anggaaagga aattggggtt ttnaanctct taaanatgac actggctcan gggaaaattt 600
gcccaantgn gcaaa 615

<210> 100
<211> 784
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 100
cnagctgtng ttgctgaagg ggtcctccct gcgcccacgg ccgtcgccat ggtgaagctg 60
agcaaagagg ccaagtagag actacagcag ctcttcaagg ggagccagtt tgccattcgc 120
tggggcttta tccctcttgt gatttacctg ggatttaaga ggggtgcaga tcccggaatg 180
cctgaaccaa ctgttttgag cctactttgg ggataaagga ttatttggtc ttctggattt 240
ggaggcaatc agcggacagc atggaagatg tgtgctctgg ctcggataag agatgggaca 300
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aacttgtacc tgcccgggcg gccgctcgaa agccgaattc cagcacactg gcggccgtta 420
ctagtggatc cgagctcggt accaagcttg gcgtaatcat ggtcatagct gtttcctgtg 480
tgaaattgtt atccgctcac aattccacac aacatacgaa cccggaagca taaagtgtaa 540
aagcctgggg tgcctaatga agtgagctac tcacattaat tgcgttgcgc tcactgcccg 600
ctttccagtc gggaaacctg tcgtgccaac tgcattaatg aatcggccaa cgccccgggg 660
aaangcggtt tgcgtattgg gcgctnttc cgcttcctng cttacttgac tcgctgcctc 720
ggtcgttcng nttgcggcaa accggtntca acttacttca aaggcgggna attccnggtt 780
ntcc 784

<210> 101
<211> 668
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence

Muscular steatosis
Porcine

<400> 101
tacaagttcc ctctgctaca gatgcgtctg tgaagagcct tgtgccatcc aactagtgac 60
tgaatgatgt cccatctctt atccgagcca gagcacacat cttccatgct gtccgttgat 120
ngcctccaan tccaaaaaac caattaatcc tttntcccca aagtaggntn aaancagtng 180
gttnaggctt tccggnatnn gnncccnttt taantcccag gtaantccca gaagggntaa 240
ancccacca annggcaaan nggttcccnt tgaaaannng nngaagcntt ngntgggcct 300
tttngntaag tttcccntgg caacggccgt ttggccaggg aggacacttg cccgggcggc 360
cgttccaaan gccgaattcc agcacangtg gnggccgtnt taggggatcc gatctnggcn 420
ccaancttgg cgnaannang ggacatagct gtnccctgtg aaaattgnta tccntcacat 480
ttccacacaa tntacgancc ggaagcataa agtgtaaanc ctgggggcct aatgagngan 540
ctaactcana ttaattgcgn tgcgctcaat tgcccgnttt tcagtnggga aacctgtngn 600
ccnctgnatt aatgaatcng nccacccncg gngaaaggcn gttgnntatn gggcgctntt 660
ccgnttct 668

<210> 102
<211> 646
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 102
tcaagttcca ctctgctaca gatgcgtctg tgaagagcct tgtgccatcc aactagtgac 60
tgaatgatgt cccatctctt atccgagcca gagcacacat cttccatgct gtccgctgat 120
tgcctccaaa tccagaagac caaataatcc tttatcccca aagtaggctc aaaacagttg 180
gttcaggcat tccgggatct gcacccctct taaatcccag gtaaatcaca agagggataa 240
agccccagcg aatggcaaac tggctcccct tgaagagctg ctgtagtctc tgcttggcct 300
ctttgctcag cttcaccatg gcgacggccg tgtggcgcan ggaggacacc tgcccgggcg 360
gccgntccga aagccgaatt ccagcacact ggcggccgtt actagtggat ccgagctcgg 420
taccaanctt ggcgtaatca tggcatagct gnttcctgtg tgaaaatgnt atccggtnac 480
aattccacac aacatacnan cccggaacnt aaagtgtnaa ncctggggng cctaatgagt 540
gagctaactc acattaattg cgttggctta atggccgntt tcaancggga aaactttnnt 600
gccanntgnt ttatgaatng gncaaanccc cggggaaaag gggntt 646

<210> 103
<211> 838
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 103
tgaaataact gctcatgtaa cgggtgtcct tgatgtgttt gaagtgagga gtgtcacctg 60
gaagtctata tccagtgggc agggtgcgca ggctggtttt gtatagattc gaactctgga 120
gcttgtatgc atgaagggcc cggtccagat ccacggtttt ggtagttgga gccactttgc 180
ctctgacact gtgcacatag tcatagtggt agacagcgtc acttagctgt ttcccacttt 240
tgacagcctg cacgtagact ggtgtatctg tgacaagctt gtagtcattc cttgttttca 300
acatgtgagc tttatacttg atatcatcac gtagatcata agcatgcttg gcatggagga 360
tttcaggagt gtcccagacg tagcaaccaa tgcctttcag ccagttgagg tcatccttgt 420
atacaatatc gctgatctga tctgtgactt tcctgacgtg atcattgact tgcaagtcgg 480
ggtggcaaat ccattcgtgg aggcgcangc ggtaatcaat ctcactgact ttcttctggg 540
aatccttggc agtaaccatc ttctaccatg tcgggcacga tgtggatttt catcttggtc 600

ttttcataaa ctgatcccgt acctgcccgg gcggccgntc naaagccgaa ttctgcaaat 660
atccatcaca ctggcggccg ttcnaccatg catctanaag gcccaattcg ccctatagtg 720
agtcntatta caattcactg gccgtnggtt tacnaacgtc ntgactgggn aaanccttgg 780
ggttacccaa cttaatcccc ttgnancaaa ttcccccttt tgccannttg gngtaana 838

<210> 104
<211> 821
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 104
atttgaaata actgctcatg taacgggtgt ccttgatgtg tttgaagtga ggagtgtcac 60
ctggaagtct atatccagtg ggcagggtgc gcaggctggt tttgtataga ttcgaactct 120
ggagcttgta tgcatgaagg gcccggtcca gatccacggt tttggtagtt ggagccactt 180
tgcctctgac actgtgcaca tagtcatagt ggtagacagc gtcacttagc tgtttcccac 240
ttttgacagc ctgcacgtag actggtgtat ctgtgacaag cttgtagtca ttccttgttt 300
tcaacatgtg agctttatac ttgatatcat cacgtagatc ataagcatgc ttggcatgga 360
ggatttcagg agtgtcccag acgtagcaac caatgccttt cagccagttg aggtcatcct 420
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tcggggtggc aaatccattc gtggaggcgc aggcggtnat caatctcact gactttcttc 540
tgggaatcct tggcagtaac catctctacc atgtcgggca cgatgtggat tttcatcttg 600
tctttcataa actgatctgg acctgcccgg ncggncgttc gaacatgcat ctanaagggc 660
ccaattcngc ctatagtgaa gtctattaca attcactggc cgtcgtttta caacntcgtn 720
actgggaaaa ccctgccgtt cccaacttan tcgccttgca ntnacattcc cctttcgcca 780
gttggcgtat tagccnaaaa ggcccngcac cgatcgcctt c 821

<210> 105
<211> 816
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 105
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ctggaagtct atatccagtg ggcagggtgc gcaggctggt tttgtataga ttcgaactct 120
ggagcttgta tgcatgaagg gcccggtccg gatccacggt tttggtagtt ggagccactt 180
tgcctctgac actgtgcaca tagtcatggt ggtagacagc gtcacttagc tgtttcccac 240
ttttgacagc ctgcacgtag actggtgtat ctgtgacaag cttgtagtca ttccttgttt 300
tcaacatgtg agctttatac ttgatatcat cacgtagatc ataagcatgc ttggcatgga 360
ggatttcagg agtgtcccag acgtagcaac caatgccttt cagccagttg aggtcatcct 420
tgtatacaat atcgctgatc tgatctgtga ctttcctgac gtgatcattg acttgcaagt 480
cggggtggca aatccattcg tggagcgcag ccggtaatca aatctcactg acttcttctg 540
ggaatccttg gcagtaacca tctttaccat gtcggcacga tgtggatttt catcttggtc 600
ttttcataaa ctgatctgta cctgccccgg gcgggccgct cgaaaccgaa ttccagcaca 660
ctggcgggcc gttactagtg gatccgagct nngtaccaan cttggcgtaa tcatgggnat 720
actggttcct gngtnaaatt gttatccgtt acaattccca caatcatact aaccggaagc 780
ttaaantgta aagcctgggg tgcctaattg agnnac 816

<210> 106
<211> 802
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 106
ggtgtccttg atgtgtttga agtgaggagt gtcacctgga agtctatatc cagtgggcag 60
ggtgcgcagg ctggttttgt atagattcga actctggagc ttgtatgcat gaagggcccg 120
gtccagatcc acggttttgg tagttggagc cactttgcct ctgacactgt gcacatagtc 180
atagtggtag acagcgtcac ttagctgttt cccacttttg acagcctgca cgtagactgg 240
tgtatctgtg acaagcttgt agtcattcct tgttttcaac atgtgagctt tatacttgat 300
atcatcacgt agatcataag catgcttggc atggaggatt tcaggagtgt cccagacgta 360
gcaaccaatg cctttcagcc agttgaggtc atccttgtat acaatatcgc tgatctgatc 420
tgtgactttc ctgacgtgat cattgacttg caagtcgggg tggcaaatcc attcgtggag 480
gcgcangcgg taatcaatct cactgacttt cttctgggaa tccttggcag taaccatctt 540
ctaccatgtc gggcacgatg tggattttca tcttggtctt ttcataaact gatcccgtac 600
ctgcccgggc ggccgntcna aagccgaatt ctgcaaatat ccatcacact ggcggccgtt 660
cnaccatgca tctanaaggc ccaattcgcc ctatagtgag tcntattaca attcactggc 720
cgtnggttta cnaacgtcnt gactgggnaa ancctgggg ttacccaact taatcccctt 780
gnancaaatt ccccctttg cc 802

<210> 107
<211> 726
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 107
tgatgtgttt gaagtgagga gtgtcacctg gaagtctata tccagtgggc agggtgcgca 60
ggctggtttt gtatagattc gaactctgga gcttgtatgc atgaagggcc cggtccagat 120
ccacggtttt ggtagttgga gccactttgc ctctgacact gtgcacatag tcatagtggt 180
agacagcgtc acttagctgt ttcccacttt tgacagcctg cacgtagact ggtgtatctg 240
tgacaagctt gtagtcattc cttgttttca acatgtgagc tttatacttg atatcatcac 300
gtagatcata agcatgcttg gcatggagga tttcaggagt gtcccagacg tagcaaccaa 360
tgcctttcag ccagttgagg tcatccttgt atacaatatc gctgatctga tctgtgactt 420
tcctgacgtg atcattgact tgcaaagtcg gggtggcaaa tccattcgtg gaggcgcagg 480
cggtnatcaa tctcactgac tttcttctgg gaatccttgg cagtaaccat ctctaccatg 540
tcgggcacga tgtggatttt catcttgtct ttcataaact gatctggacc tgcccggncg 600
gncgttcgaa catgcatcta naagggccca attcngccta tagtgaagtc tattacaatt 660
cactggccgt cgttttacaa cntcgtnact gggaaaaccc tgccgttccc aacttantcg 720
ccttgc 726

<210> 108
<211> 810
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 108
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ggaagtctat atccagtggg cagggtgcgc aggctggttt tgtatagatt cgaactctgg 120
agcttgtatg catgaagggc ccggtccgga tccacggttt tggtagttgg agccactttg 180

cctctgacac tgtgcacata gtcatggtgg tagacagcgt cacttagctg tttcccactt 240
ttgacagcct gcacgtagac tggtgtatct gtgacaagct tgtagtcatt ccttgttttc 300
aacatgtgag ctttatactt gatatcatca cgtagatcat aagcatgctt ggcatggagg 360
atttcaggag tgtcccagac gtagcaacca atgcctttca gccagttgag gtcatccttg 420
tatacaatat cgctgatctg atctgtgact ttcctgacgt gatcattgac ttgcaagtcg 480
gggtggcaaa tccattcgtg gagcgcagcc ggtaatcaaa tctcactgac ttcttctggg 540
aatccttggc agtaaccatc tttaccatgt cggcacgatg tggattttca tcttggtctt 600
ttcataaact gatctgtacc tgccccgggc gggccgctcg aaaccgaatt ccagcacact 660
ggcgggccgt tactagtgga tccgagctnn gtaccaanct tggcgtaatc atgggnatac 720
tggttcctgn gtnaaattgt tatccgttac aattcccaca atcatactaa ccggaagctt 780
aaantgtaaa gcctggggtg cctaattgag 810

<210> 109
<211> 695
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 109
tggaagtcta tatccagtgg gcagggtgcg caggctggtt ttgtatagat tcgaactctg 60
gagcttgtat gcatgaaggg cccggtccag atccacggtt ttggtagttg gagccacttt 120
gcctctgaca ctgtgcacat agtcatagtg gtagacagcg tcacttagct gtttcccact 180
tttgacagcc tgcacgtaga ctggtgtatc tgtgacaagc ttgtagtcat tccttgtttt 240
caacatgtga gctttatact tgatatcatc acgtagatca taagcatgct tggcatggag 300
gatttcagga gtgtcccaga cgtagcaacc aatgcctttc agccagttga ggtcatcctt 360
gtatacaata tcgctgatct gatctgtgac tttcctgacg tgatcattga cttgcaagtc 420
ggggtggcaa atccattcgt ggaggcgcan gcggtaatca atctcactga ctttcttctg 480
ggaatccttg gcagtaacca tcttctacca tgtcgggcac gatgtggatt ttcatcttgg 540
tcttttcata aactgatccc gtacctgccc gggcggccgn tcnaaagccg aattctgcaa 600
atatccatca cactggcggc cgttcnacca tgcatctana aggcccaatt cgccctatag 660
tgagtcntat tacaattcac tggccgtngg tttac 695

<210> 110
<211> 714
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 110
gatgtgtttg aagtgaggag tgtcacctgg aagtctatat ccagtgggca gggtgcgcag 60
gctggttttg tatagattcg aactctggag cttgtatgca tgaagggccc ggtccagatc 120
cacggttttg gtagttggag ccactttgcc tctgacactg tgcacatagt catagtggta 180
gacagcgtca cttagctgtt tcccactttt gacagcctgc acgtagactg gtgtatctgt 240
gacaagcttg tagtcattcc ttgttttcaa catgtgagct ttatacttga tatcatcacg 300
tagatcataa gcatgcttgg catggaggat ttcaggagtg tcccagacgt agcaaccaat 360
gcctttcagc cagttgaggt catccttgta tacaatatcg ctgatctgat ctgtgacttt 420
cctgacgtga tcattgactt gcaagtcggg gtggcaaatc cattcgtgga ggcgcangcg 480
gtaatcaatc tcactgactt tcttctggga atccttggca gtaaccatct tctaccatgt 540
cgggcacgat gtggattttc atcttggtct tttcataaac tgatcccgta cctgcccggg 600
cggccgntcn aaagccgaat tctgcaaata tccatcacac tggcggccgt tcnaccatgc 660
atctanaagg cccaattcgc cctatagtga gtcntattac aattcactgg ccgt 714

<210> 111

<211> 197
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 111
taccataaat acattgacac agaaaaacca taggcagctt gagaacttag gtaacagtgg 60
aaaagtctaa acccaaacct ttgacttgca ggaagctcct gcagacaagt gtgatgcttt 120
gaaatgccta aatagcttca acgtagttgg gaattgggtn ggaacctttc cggcctgtgc 180
canctctgtg cacagcg 197

<210> 112
<211> 413
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 112
ccatacttac attgacacag aaaaaccata ggcagcttga gaacttaggt aacagtggag 60
agtctaaacc gaaacattga ctgcaggatc tgtaagtcct gcagacaagt gtgatgcttt 120
gaaatgccta aatagcttca acgtagttgg ctgggagcat tccggtcctg ccagtcctct 180
gcaccagtgc catacattca gcccttcatc aaattgnctt gaaacattta atgaatgggc 240
attctccatn ctttgaaang gncaccttan tctggcanna accaanncnt natagtcntt 300
ccatggnncc ggnaaaattt ttccggncag tagaatggat taaaatngga ntnggaaaaa 360
ncccntggnc tngttgggta ncaaactgga aaatnacngt ngttgtggga acc 413

<210> 113
<211> 689
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 113
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cagaattgaa ttagaaataa taagcattag caatcagcaa ggaaaaggng aacatctctg 120
ctatttttcc tttaatgngt ttggcatatt caaaatccct gttttanaaa agaaataatg 180
ttaaaacatg tttataatgg agaaagactn taggcacaga aataatattg cagaagcttt 240
taaagngtct gttctgcaac ttatttttaaa acccaaagga gaaaggatgg tacctgcccg 300
ggcggccgct cgaaagccga attctgcaga tatccatcac actggcggcc gctcgagcat 360
gcatntanag ggcccaattc gccctatagt gagtcgtatt acaattcact ggccgtcgtt 420
ttacaacgtc gtgactggga aaaccctggc gttacccaac ttaatcgcct tgcagcacat 480
ccccctttcg ccagctggcg taatagcgaa naggcccgca ccgatcgccc ttnccaacag 540
ttgcgcaacc tgaatggcna atggacccnc cctgtaacgg ngcattaagc ncggcgggtg 600
tggtggtacc cncaacgtga ccgntacact tgccagngcc ctancgcccg ttcttttgct 660
ttcttccttc ctttttcgcc acgtttgcc 689

<210> 114
<211> 812
<212> DNA

<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 114
aaatacaang aagttaccgt aagcaactgg gccaccacat gggtttccgc accctacaag 60
atgaccccaa gtcagtatgg gctatacatg ctgccaagat ccagagtgac agagaatata 120
agaaagctta tgagaagtct aaaggaattc acaacacacc gttggacatg atgtcaattg 180
ttcaagccaa gaaatgccag gtcctggtta gcgacattga ttatcgcaat tatctgcacc 240
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agagcgataa cttgtacctg cccgggcggc cgctcgaaag ccgaattcca gcacactggc 360
ggccgttact agtggatccg agctcggtac caagcttggc gtaatcatgg tcatagctgt 420
ttcctgtgtg aaattgttat ccgctcacaa ttccacacaa catacgagcc ggaagcataa 480
agtgtaaagc ctggggtgcc taatgagtga gctaactcac attaattgcg ttgcgctcac 540
tgcccgcttt ccagtcggga aacctgtcgt gccactgcat taatgaatcg gncaacgcgc 600
ggggagaagc ggnttgcgta ttgggcgctc ttccgcttnc tcgctcactg actcgctgcg 660
ctcggncgtt cggctgcggc gagcggtatc actnacttaa angcggnaat acnggtattc 720
acagaatcag gggatacgcc ggaaagaaca tgtganccaa aaggccncna aagggccnga 780
accgtaaaaa aggccccntt gntggcgttt tt 812

<210> 115
<211> 559
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 115
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gaagtctata tccagtgggc agggtgcgca ggctggtttt gtatanattc aaactntgga 120
gctngtatgc atgaagggcc cggtccaaat ccacggtttt ggtagttgga gccactttgc 180
ctctgacact gngcacatag tcatagnggt anacagcgtc ncttagctgt ttcccacttt 240
tgacagcctg cacgtaaact ggtgtatctg tgacaagctt gnantcatnc cttgttttca 300
acatgtgagc tttatacttg atatcatcac gtanatcata ancatgcttg gcatggagga 360
tttcangagt tgtcccanac gtancaccaa tgcctttcac ccanttgagg tcatccttgt 420
atacaatatc gctgatctga tctgggactt cctgacgtga tcattgactt gcaagtcggg 480
ggtggcaaat ccattcgngg aggcccaggc ggtaatcaat ctcactgact ttcttnngna 540
aatccttggc antaaccat 559

<210> 116
<211> 724
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 116
ttttaactcc ggntccgaac gccatcctct cagagccaag agggcttact ggaatgccag 60
tgatctacgc tacaaagaaa catttcaaaa gaccaaaggg aaataccaca cggtgaaaga 120
tgccctagac attgtctatc atcgcaaagt cacagatgac atcagtaaaa taaaatacaa 180
ggagaactac atgagccagt tgggtatctg gaggtccatt cctgatcgtc cagagcattt 240
ccaccaccga gcagtcactg acacagtcag tgatgtaaaa tataaagaag acttgacttg 300

gcttaaaggc attggttgct atgcctatga tacccctgat ttcactctgg ctgaaaagaa 360
caagactctc tacagcaagt ataagtataa agaagtattt gaaaggacaa agtcagattt 420
caagtatgtt gccgactctc cgatcaatag gcatttcaag tatgcaactc aattgatgaa 480
tgagagaaaa tataaatcta gtgccaagat gtttctgcaa catggatgta atgaaattct 540
gcgtccagat atgttgactg ctctctacaa ttcgcatatg tggagccaga tcaaatcagg 600
aaaaactatg aaaaatcaaa ggacaaattt acctcaattg tggatactcc agaacacctg 660
cgtacctgcc cgggcggncg ttcgaaagcc gaattctgca gatatccatc acactgggng 720
gncg 724

<210> 117
<211> 638
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 117
tgatcaacng tcggaatgac cntgtgattt cagagactga gctgaaacaa gtggcttaca 60
ttttcaaatg cgaaaaatca actattcaga taaaagggaa agtaaactcc attataattg 120
acaactgtaa nnaactcggc ctggtgtttg acaatgtggt gggcattgtg gaagtgatca 180
actcccagga cattcaaatc caggtaatgg ggaaaagtgc caacaatttc cattaatnag 240
acagaagggt gcacatatcc tnagtgaaaa tccttanact gngagatcct naaccccaaa 300
gtcatttgaa atgaacatac ttattcctta aggatgggng attatngaga atttcccctt 360
tctgaacaat tcaanacacc ttggatngna tcnaagttta tnnctgnacc cnnagaaatt 420
atgnccaact ttccganana acnaancccc tttactgant ccccttttntt naaccaaccn 480
aaaaaccncc ttaagacttt aaantgnnnt aacccccttan tggttttacc ttgnctccan 540
gantttttng cttnaaaacc cacntngttt tnggccccnt ttgggccttt tnnaaattta 600
ccgtncccnn taaaangncn tttnggggga atttttcc 638

<210> 118
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 118
ctccnactgg tgaatncctc tgcccccacn gaatttttgg tcatggtant ngaaggggat 60
naatnttccg aaattncnnt taattggggn atnatggtna ganaatgcct tngacctnna 120
ccgcttgcca aaatcatttt gnggggccgaa cacagtttat agagatcttc acatatgtct 180
aaatgtnanc attttnacat atctttacat ncnnttnccn cattttnngn nttactttca 240
cgacatatat tgctcacngc gcaantttttg gaacancatt atgatanatt tttcagtgaa 300
tatgatgaag ngcttcattc ttaaaattat gtggccacaa gacaatcact gaagcttctc 360
ggngaactac tactanatag acncnacttc ncccantatga ccacatacct cattaaacct 420
gngnacctcc attaatgatg aacctgcctg cagacaaaag tcggaacctt ccantttgag 480
ggcttncacg tttttaangg ggntgtnnnc caatccttac taganagcag gccattcctt 540
accatncttc ttanaaacca agccccncct catttnagtt ccttacccag tttnntnaac 600
gacccggccc ggnggatnag ccngtttaac nacnggaaag acctttttttt tttaccnanc 660
ccggggtttg gananaaccn gccctcctga aacttnatcn tccnttaana tctttnttta 720
at 722

<210> 119
<211> 700
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 119
ctccntctgg tgaatccctc tgcccccacn gaatttttgg tcatggtant ngaaggggat 60
naatnttccg aaatttcgat taattggggn atnatggtna ganaatgcct tngacctcca 120
ccgcttgcca aaatcatttt gnggggccgaa cacagtttat agagatcttc acatatgtct 180
aaatgtnanc attttnacat atctttacat ncnnttnccn cattttnngn nttactttca 240
cgacatatat tgctcacngc gcaantttg gaacancatt atgatanatt tttcagtgaa 300
tatgatgaag ngcttcattc ttaaaattat gtggccacaa gacaatcact gaagcttctc 360
ggngaactac tactanatag acncnacttc nccantatga ccacatacct cattaaacct 420
gngnacctcc attaatgatg aacctgcctg cagacaaaag tcggaacctt ccantttgag 480
ggcttncacg tttttaangg ggntgtnnnc caatccttac taganagcag gccattcctt 540
accatncttc ttanaaacca agccccncct catttnagtt ccttacccag tttnntnaac 600
gacccggccc ggnggatnag ccngtttaac nacnggaaag accttttttt tttaccnanc 660
ccggggtttg gananaaccn gccctcctga aacttnatcn 700

<210> 120
<211> 824
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 120
tggccaanct ggaaccaagg atttaataac tattatgatc aaggatatgg aaattacaat 60
agtgcctatg gtggtgatca aaactatagt ggctatggcg gatatgatta tactgggtat 120
aactatggga actatggata tggacaggga tatgcagact acagtggcca acagagcact 180
tatggcaagg catctcgagg gggtggcaat caccaaaaca attaccagcc atactaaagg 240
agaacattgg agaaaacagg aggagatgtt aaagtaaccc atcttgcagg acgacattga 300
agattggtct tctgttgatc taagatgatt attttgtaaa agactttcta gtgtacctgc 360
ccgggcggcc gctcgaaagc cgaattctgc agatatccat cacactggcg gccgctcgag 420
catgcatcta gagggcccaa ttcgccctat agtgagtcgt attacaattc actggccgt 480
cgttttacaa cgtcgtgact gggaaaaccc tggcgttacc caacttaatc gccttgcagc 540
acatcccccc ttcgccagct ggcgtaatag cgaagagccc gcaccgatcg cccttccaac 600
agttgcgcag cctgaatggc gaatggacgc nccccttgtan cggcgcatta aaccccggcg 660
ggtgtngtgg gttacncgca gcgtgacccg tacactttgc cagcgcccta acgcccgctt 720
cnttcgcttt cttcccttcc tttnttgcca cgttnngccg ggtttcccgt caagctctaa 780
atcgggggggc ttcctttaag ggttccgaat taangctttt accg 824

<210> 121
<211> 796
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 121
ntggttgctn gactgattct gatgttgtag ctctgaatac cttctccacc tcgttctgga 60
tggccatgat ggactgccgc tctccgtccg cctcgggcag cgtggccttg aactgctcat 120
gcgcagtgat cagactctgg atctcctcaa tgctgtggac aatgaacata tcttgcagat 180
cctccatagc gccctccatc caattgttga aaggagcagc cctcttggca aactccaggt 240

gaagctgatc aatggtttct agcaatttct ccattctctc tagggcttct ctcctcttct 300
gagtaagcgt tcccagtcgg tcccactggt cacaaatttt ctggcaccga tcattgacat 360
tcacagcgtc gtgatagtcc agttcattga gctcctgcgc gatggctgcg atctgctcca 420
cgcgacctgc ccgggcggtc gctcgaaagc cgaattctgc agatatccat cacactggcg 480
gccgctcgag catgcatcta gagggcccaa ttcgcctata gtgagtcgta tacaaattca 540
ctgggccgcg ttttacaacg cgtgactggg aaaaccctgg cgttacccaa cttaatcgcc 600
ttgnangaca tcccctttcg ccagttggcg taatancgaa naggcccgaa ccgatcgccc 660
ttccnacagt tgcccaacct gaatggcaaa tggnccccc ctgaaccggn cataaaccnc 720
ggnggtgtgg nggtaccccc aangtgaccg ttcactttgc cnngcctacg ccggtcnttt 780
gcttnttcct tccttc 796

<210> 122
<211> 801
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 122
tggttgcncg agctgattct gatgttgtag ctctgaatnc cttctccacc tcgttctgga 60
tggccatgat ggactgccgc tctccgtccg cctcgggcag cgtggccttg aactgctcat 120
gcgcagngat cagactctgg atctcctcaa tgctgtggac aatgaacata tcttgcagat 180
cctccatagc gccctccatc caattgttga aaggagcagc cctcttggca aactccaggt 240
gaagctgatc aatggtttct agcaatttct ccattctctc tagggcttct ctcctcttct 300
gagtaagcgt tcccagtcgg tcccactggt cacaaatttt ctggcaccga tcattgacat 360
tcacagcgtc gtgatagtcc agttcattga gctcctgcgc gatggctgcg atctgctcca 420
cgcgacctgc ccgggcggcc gctcgaaagc cgaattctgc agatatccat cacactggcg 480
gccgctcgag catgcatcta gagggcccaa ttcgcctata gtgagtcgta ttacaattca 540
ctggccgtcg ttttacaacg tcgtgactgg gaaaaccctg cgttacccaa cttaatcgcc 600
ttgcagcaca tcccctttcg ccagctggcg taatagcgaa naggccgnac cgatcgcctt 660
ccaacagttg cgcacctgaa tggcgaatgg acccccctgt aaccggggca ttaagcnccg 720
cgggtgtggt ggttacccnc ancgtgaccg ttcacttggc aacgncctac gcccgntcct 780
ttcgctttct tcctttcttt c 801

<210> 123
<211> 709
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 123.
cttggagtcn cggaagatgt gaattcgact tgtttgcaag gttgcaaaca ccaagaaaga 60
aaccgttttc aaatggctca aggatgatgt tctgtatgaa acggagacac tgcctaacct 120
ggagagggga atctgtgagc tcctcatccc aaagttgtca aagaaggacc acggcgaata 180
caaggcaacc ttgaaagatg acagaggcca agatgtgtcc atccttgaaa tagctggcaa 240
agtgtatgat gatatgattt tggcaatgag tagagtctgt gggaaatctg cttcgccact 300
gaaggtacct gcccgggcgg ccgctcgaaa gccgaattct gcagatatcc atcacactgg 360
cggccgctcg agcatgcatc tagagggccc aattcgccct atagtgagtc gtattacaat 420
tcactggccc gtcgttttac aacgtcgtga ctgggaaaac cctggcgtta cccaacttaa 480
tcgccttgca gcacatnccc cttttcgcca gctggcgtaa tagcgaagan gcccgcaccg 540
atcggccttt ccaacagttg cgcaacctga atggcaaatg gacncnccct gtaccggcgc 600
attaagcncg gcggtgtggn ggttacccnc agcgtgaccg gtacacttgc caggccctac 660
gcccgttctt tcgtttcttc ccttcctttt ngccacnttn gccggnttt 709

<210> 124
<211> 634
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 124
ctgggatgtc cggaagaatg tgaagttcga cttgtttgca aggttgcaaa caccaagaaa 60
gaaaccgttt tcaaatggct caaggatgat gttctgtatg aaacggagac actgcctaac 120
ctggagaggg gaatctgtga gctcctcatc ccaaagttgt caaagaagga ccacggtgaa 180
tacaaggcaa ccttgaaaga tgacagaggc caagatgtgt ccatccttga aatagctggc 240
aaagtgtatg atgatatgat tttggcaatg agtagagtct gtgggaaatc tgcttcgcca 300
ctgaaggtcc tgcccgggcg gncggtcgaa agccgaattc tgcagatatc catcacactg 360
gcgggccgtt cgagcatgca tctagaaggc ccaattcgcc ctatagtgag tcgtattacc 420
aattcacttg ggccgccntt tacaacgtnn tgactgggga aaaccctggg gttncccact 480
taatnccntt gaagacattc cccntttngc cagctggcgt aataaccaaa aaggcccgac 540
cgatcggcct ttccaacaag ttgcncaacc tgaattgnca atggcccccc cttttaccgg 600
gcanttaacc cccgcnggtn tgggggggtac cccc 634

<210> 125
<211> 570
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 125
nntntttgcn taactnatac cctttgacta gttnnatccc ttgtaacgta gtagttgtct 60
gctctttgtc catgtgttaa tgaggactgc aaagtccctt ctgttgtgat tcctaggact 120
tttcctcaag aggaaatctg gatttccacc taccgcttac ctgaaatgca ggatcaccta 180
cttactgtat tctacattat tatatgacat agtataatga gacaatatca aaagtaaaca 240
tgtaatgaca atacatacta acattcttgt aggagtggtt agagaagctg atgcctcatt 300
tctacattct ggcattagct attatcacct aacgtttcaa tggtatcctt cagaaataaa 360
gcagcatatg aattaaaaaa aaannnnntt aaaaaaaaag cttgngncct gccggggcgg 420
gccgntnnaa aaccnaaatt ccagccactt ggggggccgt tactaagggg anccaaactt 480
cgngcccaac cnttgggtaa atcatnggca ananctggtt cccctgggng naaantgntn 540
ttccgnttca ccaatttccc accaaatttc 570

<210> 126
<211> 723
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 126
tattatccac gtnttgatct cctgcccaat ggccttgaag cacccccttgc acttgggggga 60
gtcctcccga gtggtgcact tgttgcacag gatcttgttg tccttggcca caaaggtctc 120
attggccaag gggtgaaggc acttggcaca gcggaagcag gtgtcatgcc agaagcggtt 180
cttatagtgc acctccttgg agtccgcacc gatgggcttg cggcattcca cacaggtgtt 240
ggcacagaac ttgtcaaagc atttcaggca gcagtggtgg ccatcctttt gcacatactt 300

cttcccctgc aagggatccc tgcagtagtg gcagtcaaac ttctccgcca tggtgcccac 360
cttgtagctg gagggacctg agtgtctatg ggaagccatg gctcagagac caagttcagg 420
agcagcacct agaccagtct tccacctgcc cgggcggccg ctcgaaagcc gaattctgca 480
gatatccatc acactggcgg ccgctcgagc atgcatctag agggcccaat tcgccctata 540
gtgagtcgta ttacaattca ctggccgncg ttttacaacg tcgtgactgg gaaaaccctg 600
gcgttaccca acttaatcgc cttgcancac atccccttta gccaactggc gtaatancca 660
aaaaggccng acccatcgnc ctttccaaca gttgcncaac ctgaatggcn aatggacccc 720
cct 723

<210> 127
<211> 519
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 127
tacaatctgg gcaaaccgac tggtgatggc aagagtggtg tcaatgaagc ggtctacaca 60
gctggagaga caattttcag tgcgagagtc taggcgattc cctggcttct ccacacattt 120
atcccaacat aactccatga agtgatgcac ctgtgcagta aactgcgcct tctactgccc 180
gggcggccgc tcgaaagccg aattctgcag atatccatca cactggcggc cgctcgagca 240
tgcatctaga gggcccaatt cgccctatag tgagtcgtat tacaattcac tggccgtcgt 300
tttacaacgt cgtgactggg aaaaccctgg cgttacccaa cttaatcgcc ttgaagcaca 360
ttcccctttn ggcagctngc gtaatancca aaaaggcccg accgattggn cnttccaaaa 420
ggttgcccaa cctgaaatgg caaatggacc ccccccttgta ccggggcant taaccccggc 480
gggttttggg gggtaccccc caacgtgacc ggttcaatt 519

<210> 128
<211> 533
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 128
tncaatctgg gcaaaccgac tggtgatggc aagagtggtg tcaatgaagc ggtctacaca 60
gctggagaga caattttcag tgcgagagtc taggcgattc cctggcttct ccacacattt 120
atcccaacat aactccatga agtgatgcac ctgtgcagta aactgcgcct tctactgccc 180
gggcggccgc tcgaaagccg aattctgcag atatccatca cactggcggc cgctcgagca 240
tgcatctaga gggcccaatt cgccctatag tgagtcgtat tacaattcac tggccgtcgt 300
tttacaacgt cgtgactggg aaaaccctgg cgttacccaa cttaatcgcc ttgnagcaca 360
ttcccctttn ggcagctngc gtaatancca aaaaggcccg accgattggn cnttccaaaa 420
ggttgcccaa cctgaaatgg caaatggacc ccccccttgta ccggggcant taaccccggc 480
gggttttggg gggtaccccc caangtgacc ggttcaattg gcaagggcct taa 533

<210> 129
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 129
ncaatctggg caaaccactg gtgatggcaa gantggtgtc aatgaagccg gctacccagt 60
tgganaaaca tttttaaggg caaaagttta ggcaattccc tggtttttcc acacntttat 120
cccaannntan ntcnttgaag agatgcncnt gtgcagaaaa gtgcccttta nantgccggg 180
gngnccnttn aaaaacccaa ttnccagcac atnggnggcc gttactaggg ganccgatct 240
nggcccaatn tgggcgtaat cntggtaata gctgtctccn gngnaaaatt gttntccgct 300
cacnnttcca cacatcatac gagccggatc ataangtnna aagccngggg tgcctaatga 360
gngagctaac tcacattaan tgcgtcgcnc tnactgccct ntttccagnn gnnnaaacct 420
gtcgngccag cttgcattaa tgaatcgcca ccgcgcgaag agaggcggtt tgngtatngg 480
gcgctcttcc gcttcctcgn tcactgactc gntgcgctcg gncgttcggn tgnggcgagc 540
ggtatcagct cactcanngg cggtaatacg gntatccaca agagcagggg gatacgcang 600
aaagaacatg taagcaaaag gccagcaaaa ggccaggaac ccgtaaaaag gcccngttgc 660
tggcntttt ccatagggct nccgnccccc tggccnagca ttnacaaaaa ttngacgctt 720
at 722

<210> 130
<211> 398
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 130
tnaatctgcg caaaccgact gntgatggca agagtggtgt caatgaagcg gtctacacag 60
ctggagagac aattttcagt gcgagagtct aggcgattcc ctggcttctc cacacattta 120
tcccaacata actccatgaa gtgatgcacc tgtgcagtaa actgcgcctt ctactgcccg 180
ggcggccgct caaaaagccg aattccacac antggcggcc gctactagng gatccganct 240
cggnaccaan cttggcgtaa tcatgggtca tagctgnctn ctgtgnnaaa ttgttatccg 300
ntcacaattc cacacaacat acgagccngg aaagcataaa gntgtaaagc ctggggtgcc 360
taatgagtgg agctaactca cattaattgc gttgcgct 398

<210> 131
<211> 593
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 131
tgctgacctg cgagcctgac atccttacca ggagcctnag ggaacccagc cagcacagca 60
gcagcagcct tgcctctatg agatcaaaca gtttcttgga gtgtgcccag aaccagggtg 120
acatcaagct ctgtgagggt ttcaatgagg tgctgaaaca gtgccgactt gcaaacggat 180
tggcctaatg aagaagttca acctggagag atggaaaatc agctctcata actaagttaa 240
tttagtataa aaatagaatt gatagtgang gtataaagtg taccatcagt taaacctctt 300
ctggcattcc taacttncnt gcttnaaaat tgnaatggaa ntnggggtgt cctacttgta 360
aatctnggac tgggccaatg gttgngnngc ctccttaact aactggnaag gtatgaattt 420
attccttggg gagttaatng aanaaagcct ttttcnttcc aaaaaaaaaa nnnnnaaaaa 480
aaaagcttgg nccttcccng ggggccnttt naaaacccaa ttttggnaaa ttccttacan 540
ctgggggggcn nttaaacctt ccttttaaag ggcccaatnc cccctatggg ggc 593

<210> 132
<211> 663
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 132
nctgncctgc gagcctgaca tcacttacca ggagcctcag ggaacccagc cagcacagca 60
gcagcagcct tgcctctatg agatcaaaca gtttctggag tgtgcccaga accagggtgg 120
catcaagctc tgtgagggtt tcaatgaggt gctgaaacag tgccgacttg caaacggatt 180
ggcctaatga agaagttcaa cctggagaga tggaaaatca gctctcataa ctaagttaat 240
ttagtataaa aatagaattg atagtgaggg tataaagtgt aaccatcagt taaacctctc 300
ctgtcattcc tagcttcctt gcttcagaat tgaaatggaa gtgggggtgt ccctactctg 360
tagaatctgg gactgggcaa atgtttgtgt ggcctcctta aactagctgt tatgttatga 420
ttttattctt tgtgagttaa ttagaataaa gtcattttct tccaaaaaaa anaanattnn 480
naanaaaaaa aaagcttgta cctgcccggg cggccgttcg aaagccgaat tccagcacac 540
tggcggccgt tactagtgga tccgactcgg tccaaacttg gcgtaatcat ggccatagct 600
gttncctgng gtgaaattgt tatccgctca caattccaca caacatacga gcccggaagc 660
ctt 663

<210> 133
<211> 415
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 133
nttttgcata cngacgagaa attggcaagc cgtaaccaaa accagccaaa ggagcattcc 60
gggaattatc catcacaggc gttggtgcag tggagtatgt ataactaaag aggcggtcaa 120
taattctcag gggaacacca ccccctctgt ctgaaatctt aatggtaagg tcttcttttc 180
ccaagacaac aataacctct attggtgtaa gggaaggctg attttcctgg tgttcaactg 240
gtgcccgcat tgcattctta aaccaagcna accntnangg attcaatngc nnaagaatta 300
aggccattaa tggttttttt tttttaaggt taaaattaaa gntcccnaaa ggntattcca 360
aggtcccant tttttaaagt angnnntaaa ccacnttngn aattcccttt ntnaa 415

<210> 134
<211> 794
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 134
aacagggtgt ttatcttcaa ccccaaaaaa ggagattgga aagatctggc tccaatgaaa 60
attcctcgtt ccatgtttgg agtagcagtc cataaaggca aaattgtgat tgcaggaggt 120
gtcactgaag atggtctttc agcttcagtt gaagcttttg accttacaac aaataaatgg 180
gatgtaatga ccgaatttcc ccaagaaaga agctccatca gtttggtcag cctggctgga 240
tctctgtatg caattggtgg ttttgctatg attcaactgg agtctaaaga atttgcaccc 300
actgaagtca atgacatatg gaagtatgaa gatgataaaa aagaatgggc tgggatgttg 360
aaggaaatac gttatgcttc aggagctagt tgtctagcaa cacgtttaaa tctcttcaaa 420
ctgtctaaac tgtgaacaag gtgacaaaac ataatagatt gggaggtggt ttgtttggtg 480
aatggggctt taatttattc tgtttttttaa aagcttgtac ctgcccgggc ggccgctcga 540
aagcccgaat tctgcagata tccatcacac tggcggccgc tcgagcatgc atctagaggg 600
cccaattcgc cctatagtga gtcgtattac aattcactgc cgtcgtttta caacgtcgtg 660
actgggaaaa ccctggcgtt acccaactta atcgccttgc acacatcccc tttcgccact 720

ggcgtaatac cgaagagccc gcaccgatcg ccttccaaca gttgcgcacc tgaatggcna 780
atggacncgc cttt 794

<210> 135
<211> 371
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 135
aacagggngt ttatcttcaa ccccaaaaaa ggagattgga aagatctggc tccaatgaaa 60
attcctcgtt ccatgtttgg agtagcagtc cataaaggcn aaattgngat tgcaggaagn 120
gncactgaan atggnctttc ancttcagtt gaagcntttg nccntnccac caattaatgg 180
gatggnatga ccnnatttnc ccaagaaaga aactcncctn catttggcaa ccnggttgga 240
ctctgtgtgn ccatgggggg gttgcntnan tcaccnnggg actanaaaaa ttgcnccccc 300
ttnnacccng gcnctttggg aattttanaa ttttataaaa aaaagggccc nganntntaa 360
aggnaaccct t 371

<210> 136
<211> 630
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 136
naaacagggt gtttatcttc aaccccaaaa aaggagattg gaaagatctg gctccaatga 60
aaattcctcg ttccatgttt ggagtagcag tccataaagg caaaattgtg attgcaggag 120
gtgtcactga agatggtctt tcagcttcag ttgaagcttt tgaccttaca acaaataaat 180
gggatgtaat gaccgaattt ccccaagaaa gaagctccat cagtttggtc agcctgctgg 240
atctctgtat gcaattggtg gttttgctat gattcaactg gagtctaaag aatttgcacc 300
cactgaagtc aatgacatat ggaagtntga agatgataaa aaagaatggg ctgggatgtt 360
gaaggaaata cgttatgctt caggagctag ttgcctacaa cacgtttaaa tctnttcaaa 420
ctgntaaact gngaccangg ggcaaancct antaaattgg gaggggttn gttngnaaat 480
ggggctttaa ataaaccggg ttttnaaacc ttgcccttcc cgggnggcc tttnaaaacc 540
caattttggg aaaatccctc aacntggggg gcnttnaann tnnctttaaa ngggccccaa 600
ttnccccttt atggggnnct tttacaattc 630

<210> 137
<211> 575
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 137
naaacagggt gtttatcttc aaccccaaaa aggagattgg aaagatctgg ctccaatgaa 60
aattcctcgt tccatgtttg gagtagcagt ccataaaggc aaaattgtga ttgcaggagg 120
tgtcactgaa gatggtcttt cagcttcagt tgaagctttt gaccttacaa caaataaatg 180
ggatgtaatg accgaatttc cccaagaaag aagctccntc agtttggtca gcctggctgg 240
atctctgtat ncaattgggg gttttgctat nattcanctg gagtntaaan aatttgcncc 300

cactgaagtc aatgncntat ggaagtntga anatgntaaa aaanaatggg ctgggatgtt 360
gaaggaaata ccttatgctt caggagctan ttgcctagca acacgtttaa atctnttnaa 420
actgtctaaa ctgtgaacaa ggngacaaaa catnataaat tgngaggngg tttntttnga 480
naatggggct ttaatttact nggttttaaa ananttgccn ntccccgggg gggctntnaa 540
acccattttn cacccagtgg gggggcnttc tnggg 575

<210> 138
<211> 771
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 138
aaacagggtg tttatcttna ccccaaaaag gagattggaa agatctggct ccaatgaaaa 60
ttcctcgttc catgtttgga gtagcagtcc ataaaggcaa aattgtgatt gcaggaggtg 120
tcactgaaga tggtctttca gcttcagttg aagcttttga ccttacaaca aataaatggg 180
atgtaatgac cgaatttccc caagaaagaa gctccatcag tttggtcagc ctggctggat 240
ctctgtatgc aattggtggt tttgctatga ttcaactgga gtctaaagaa tttgcaccca 300
ctgaagtcaa tgacatatgg aagtatgaag atgataaaaa agaatgggct gggatgttga 360
aggaaatacc gttatgcttc aggagctagt tgcctagcaa cacgcttaaa tctcttcaaa 420
ctgtctaaac tgtgaacaag gtgacaaaac ataatagatt gggaggtggt ttgtttggtg 480
aatggggctt taatttattc tgnttttaa aagcttgtcc tgccgggcgg ncgctcgaaa 540
gccgaattcc agcacactgg cggccgttac tagtggatcc gagctcggtc caagcttggc 600
gtaatcatgg ncatagctgg ttcctgtgtg aaattggtat ccgntcacaa tttcacacaa 660
catcganccg gaagcctaaa gtgtaaaacc tggggtgcct aatgagtgag ctactcacat 720
taattgcgtt gngctcactg gccgnttttc antcgggaaa cctgtcgtgc c 771

<210> 139
<211> 391
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 139
tggggccncc ntgccgtgct gtccctctac gcctccggca ggaccccggc atcgtgctgg 60
actccggcga cggcgtcacc cacaacgtgc ccatttatga gggctacgcg ctgccgcacg 120
ccatcatgcg cctggacctg gcgggccgcg atctcaccga ctacctgatg aagatcctca 180
ctgagcgtgg ctactccttc gtgaccacag cttgaacgcg aagatcgtgc gccaaatcaa 240
gggagaaact gngctacgtg ggcctggaat ttcaagggac aagaatgnca acgggccgct 300
tcntcttctt ccttgaaaaa aactnncaac ttgcnaaacg gccaggnnnt ancottnggc 360
accaacnnct tcggttgccc ggccggcngt t 391

<210> 140
<211> 684
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 140

tgtggccatc cagccgtgct gtccctctac gcctccggca ggaccccggc atcgtgctgg 60
actccggcga cggcgtcacc cacaacgtgc ccatttatga gggctacgcg ctgccgcacg 120
ccatcatgcg cctggacctg gcgggccgcg atctcaccga ctgcctgatg aagatcctca 180
ctgagcgtgg ctactccttc gtgaccacag ctgagcgcga gatcgtgcgc gacatcaagg 240
agaagctgtg ctacgtnggc cctgacttcg aggacganat ggcnacgggc cgcttcttct 300
tccttggaaa agagctacna nctgccanac gggcaggtca tcaccatcgg caacgnacgc 360
tttccattgc ccgggcggcc gntcnaaccc aattctgcan atntccatca cactggcggc 420
cggtngagca tgcatntana gggcccaatt cgccctatag ngaagtcgta ttacaatttc 480
actgggcggc gttttacaac gtntngactt gggaaaaccc ttgnggttcc caaacttaat 540
cgccttggaa ganattcccc ttttcnccag tnggnntaat tccaanaggc ccnnacccga 600
tnggcctttc caaanagttg cccancntng aatggnaaat nggncccccn ctgttancgg 660
ncaatnaacc gnggggggtt nggg 684

<210> 141
<211> 668
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 141
gacgaggccg gcccttcctc gtccaccgca aatgcttcta gacacactcc acctccagca 60
cgcgacttct caggacgacg aatcttctca atggggtggc tggagctcag ccgcccacct 120
gcccgggcgg ccgctcgaaa gccgaattcc agcacactgg cggccgttac tagtggatcc 180
gagctcggta ccaagcttgg cgtaatcatg gtcatagctg tttcctgtgt gaaattgtta 240
tccgctcaca attccacaca acatacgagc cggaagcata aagtgtaaag cctggggtgc 300
ctaatgagtg agctaactca cattaattgc gttgcgctca ctgcccgctt tccagtcggg 360
aaacctgtcg tgccagctgc attaatgaat cggccaacgc gcggggagag gcggtttgcg 420
tattgggcgc tnttcgcttc ctcgctactg actcgctgcg ctcggtcgtt cggctgcggc 480
gaacggtatc agctnactca aaggcgggta ataccggtat ccacagaatc aggggatacg 540
caggaaagaa catgtgaacc aaanggcaca aaagggcagg aacccgtaaa agggcncgtt 600
gctggcgttt ttncatangc tccgnccccc ttgacaagca ttacaaaaat tcgacgctta 660
agttaaaa 668

<210> 142
<211> 308
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 142
cagaattctt cctcggcctc cttcagcagc tgggtggcct tcgccatatc cttttcattc 60
ttatgttctt caaaccgggc tctcatcaaa caagcaaagt atcggtattt gtctctctgg 120
acgcaccacg actcgaggtg ggcgtancgc ccgcttataa agccgnacac ctttggttga 180
atgggtaagg tagggtccca ncnccaagac cgcntttccg ggcnacnngc ccggccggcc 240
gttcaaaanc cnatttcnac ncnnttgnng gccgtacnna nggantccaa cntngnnccc 300
ancntggg 308

<210> 143
<211> 621
<212> DNA
<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 143
ttaacacctt aatcttaagc catgtcctca tctgcccacc ctncccaacc cacatacctc 60
cattccactt gtgacacccc ctcgactccc tggtgacgct cctcccagat cgctctacat 120
gacattcagg acacacacac acacacacac acaccactcg ccttcactga atctacacac 180
agattttact gngacttntn aanctgngga taaattggaa ttttttatgn aggctctctc 240
tctgccaatt tcaataccaa tcatntttca atggaaaatc attaccttga anagtgcatt 300
ccgggttcct tgngttaggg acttaagaat ctgaggcgag gacccccagg cttacctntn 360
ggactcaaag ggagccagga ccccatctga aagggnctnc tntntcnttg gggganaggc 420
cggtgggtga cccaggattg ccccccctgtn cnttaaaaaa anggttttnt ntntttcanc 480
nctnntttta anccggttca aagggnnaac tntnccttcc nggnggggcgn tnaaaaccca 540
atttgngnaa tcctnnaaat gggggngctc aacnntcntt tatagggcc atttcccntt 600
tatgnggggg tttaaaaaaa a 621

<210> 144
<211> 727
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 144
ttacacctta atcttaagcc ctgtcctcat ctgcccaccc tccccaaccc acatacctcc 60
attccacttg tgacacccc tcgactccct ggtgacgctc ctcccagatc gctctacatg 120
acattcagga cacacacaca cacacacaca ccactcgcct ccactgaatc tacacacaga 180
ttttactgtg acttctgaag ctgtggataa attggaattt tttatgttgt ctctctctct 240
gccaatttca atacgaatca tcttccaatg gaaaatcatt accttgaaga gtgcattcgg 300
ggttccttgc gttagggact taagaatctg aggcgaggac ccccaggctt acctgtagga 360
ctcaaaggga gccaggaccc catctgaaag ggtctcctct ctcagttggg ggacaggccg 420
gtggctgacc caggattgca ccagcatgtc catagagaag aggttttcta tgtcttcaag 480
cactatatca tagtccgtgt tcaaagtgta aactgtacct gcccgggcgg ncgntcgaaa 540
gcccgaattc cagcacactg gcggccgtta ctagtggatc cganctcggt accaagcttg 600
gcgtnatcat gggcatagct ggttctgtgt gaaaattgnt atccgntcac attcncacaa 660
ctacganccg naagcntaaa gtgtaaagcc tggggtgcct aatgagtgan ctaantcaca 720
ttaattg 727

<210> 145
<211> 646
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 145
tntttaactt nccctttgaa tttccctttt tttttgcatc aaaaagcttt atttccattt 60
ggtccaaggc ttgttaggat agttaanaaa gctgcctatt ggctggaggg anaggcttag 120
gcagaagccc tattactttg caaggggccc ttcaaaagtc gctgggctca aaaggctctt 180
antcgtgctt gaaagtgagc ctttcgaana gatactcgcc cagcccagcc tccgggccac 240
ccagcctgtg gaggttggtc aggtggtcac ccatcttctt gataagcttc acttcctcat 300
ctaggaagtg agtctccagg aagtcacaga gatgggggtc cgtgcgggca naacccaggg 360
catgaagatc caaaagggcc tggttcagct ttttctccag ggccatggca gctttcatgg 420
cgtctggggt tttaccccac tcatcttcag ctggcttctt gatgtcctgg aanaaagccg 480

gccgcacgct ggttttgcat nttagggana ccctcgtanc ccttgcgctt ntcctgggca 540
atttngcgga aaaagtggct caccttcca aanccncatn atcgnggncn aaatanaagc 600
ccanaaanag gtaggtgtan ggaggcctgc agtnccaaat tggcca 646

<210> 146
<211> 754
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 146
cactcctgga cactctgtct ctggcttctt tctgcctagc tcatctctag ccaatcttac 60
agttatatat cttaagccct cttctctttg ttctttaagt tatatatcct aagccctctt 120
tgctttgttc tctgggatat tttatccaca tccatggtct taatcatttt gctagagact 180
acaaaatttc catccaaagc tcagctcttt ctctcatgtt ctcctgacct atgtagacaa 240
ttggcctcat gaacatttga acacaaagac acctcaaatt caacatgtcc ccagatgaac 300
taaaaaaaaa aaaaaaaaaa aaaaaaagct tgtacctgcc cgggcggccg ctcgaaagcc 360
gaattccagc acactggcgg ccgttactag tggatccgag ctcggtacca agcttggcgt 420
aatcatggtc atagctgttt cctgtgtgaa attgttatcc gtcacaattc cacacaacat 480
acgagccgga agcataaagt gtaaagcctg gggtgcctaa tgagtgagct aactcacatt 540
aattgcgttg cgctcactgc ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta 600
atgaatcggc caacgcccgg gganaggcgg tttgcgtatt gggcgctctt ccgcttcctc 660
ntcactgact cgctgcgctc ggtcgttcgg ntgcggcnag cgggtatcag cttactcaaa 720
ggcggnaata ccggtattnc ncagaatcag ggga 754

<210> 147
<211> 764
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 147
gacgacctac gcacacgaga acatgcctct cgcaaaggat ctccttcatc cctctccaga 60
agaggagaag aggaaacaca agaagaaacg cctggtgcag agccccaatt cctacttcat 120
ggatgtgaaa tgcccaggat gctataaaat caccacggtc tttagccatg cacaaacggt 180
agttttgtgt gttggctgct ccactgtcct ctgccagcct acaggaggaa aagcaaggct 240
tacagaagga tgttccttca ggaggaagca gcactaaaag cactctgagt caagatgagt 300
gggaaaccat ctcaataaac acattttgga tgaaaaaaaa aaaaaaaaaa aaaaaaaaaa 360
aaaagcttgt acctgcccgg gcggccgntc gaaagccgaa ttccagcaca ctggcggccg 420
ttactagtgg atccgagctc ggtaccaagc ttggcgtaat catggncata gctgnttcct 480
gngtgaaatt gntatccgct cacaattcca cacaacatac gagccggaag cataaagtgt 540
aaagcctggg gtgcctaatg agtgagctac tccattaatt gcgttgcgct cactggccgc 600
ttttcagtcn ggaaacctgt cgtgccactg nattaatgaa tcgggcaacg cncngggaaa 660
agcngttgcg tatttgggcg ctnttccgct ttcttggtta actgactngc ttgngcttcg 720
gccgttcggn ttgnggcaaa cgggtttcan cttacttaaa aggg 764

<210> 148
<211> 586
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence

Muscular steatosis
Porcine

<400> 148
ccatagcccc caggctgcaa agaagatgga ggtggataaa tggggcagcc acatggctaa 60
cagacaaggt agggacagag gcggtacctg cccgggcggc cgctcgaaag ccgaattcca 120
gcacactggc ggccgttact agtggatccg agctcggtac caagcttggc gtaatcatgg 180
tcatagctgt ttcctgtgtg aaattgttat ccgctcacaa ttccacacaa catacgagcc 240
cggaagcata aagtgtaaag cctggggtgc ctaatgagtg agctaactca cattaattgc 300
gttgcgctca ctggccgctt tncaatcggg aaacctgtcg tggccacttg cattaatgaa 360
tcggncaacg cnccgggaaa agcngtttgc gtattggcgc tcttccgctt nctngnttac 420
tgactcgntg ggctcggtcg ttcggntgcg gcaaccggtn taantnactc aaaggcggna 480
anacggttnt tcncanaatc ngggataccn cnggaaaaaa cttntaacca aaaggccnca 540
aaaggccaga aaccttaaaa aggccccttt cttggnggtt tttcaa 586

<210> 149
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 149
ctttttttt ttttttcaat gttcagtttc ctttaatgac ccccatntcc ctgaagggca 60
ggtgcaggca gntaggtgat ggcaanaaat gttcacttga anatnttgcc ctgattgaag 120
gctttgccca catgctggaa ggcccctcc caggaaaagt actttnnaac cancntntgg 180
gtctcctcgn tgccagnatc cagtttccgc catgtgtatn actcgtagtc cacctgccaa 240
tntggactca gcggaaaggc aagctcctgg cctcggaana cccaaactcc aaaaatggan 300
ctgctattgt tggttccaaa aaggatgacn ctggcaaagg cnttnttcct cagnttgtcc 360
agtcgctgga acnttccagt gatgaaattg cagctcatga aggtntgagt gagttnttca 420
gggaagcgat actntgagta cctgcccggg cggccgttca aaagccgaat tccagcacac 480
tggcggccgt tactagtgga tccganctcg gtaccaactt ggcgtaatca tggcatagct 540
gttcctgtgt gaaattgtat ccgtcacaat tcccacaaca tacganccgg aagcctaaag 600
tgtaaagcct ggggggccta atgagtgagc taactcacat taattgcgtt gcncttactg 660
cccgttttca gtcgggaaac ctttctgcca ctgcattaat gaatnggcca acccccgggg 720
aaaagcggtt tgcntattgg gccctttcc 750

<210> 150
<211> 674
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 150
tgtcattgct gtctcttggt ggcagcagga atacgtgagg caaagcccag ttgccctact 60
tcaggatgtc tgccaacttc tcctcgtagt ataggaagtt ctcctgaatg tcctcccagg 120
gctgaaaggc cttggattca ccctcttctt gctccacaaa attctgccag acatattcga 180
agtcctgggg cttcatgatg cgcagtttac agccagcctc cttcagcttc ttcagagcag 240
cctggatctc cggctcctcc cacatgaaga gtcgacccac cagaatgagc agacgcaggt 300
tcttggtctt gctaagggtt ttgataatgc ggtcagcaca cgctgcacag gggctggagg 360
acacatacca ngtgacattg tacctgcccg ggcgggcgct cgaaagcccg aattcttgca 420
gatatccatc acactggcgg ncgctcgagc atgcatctag agggccaatt cgcctatagt 480
gagtcgnatt acaattcact ggccgtcgtt tacaacgtcg ngactgggaa aaccctggng 540
ttacccactt aaacgccttg gagacattcc cctttnnnca gctggcgtaa tancgaaaaa 600

ggcccnaccg atcgnccttc caaagttggg cannctgaat ggngaangga ccccccctgt 660
acggggcatt taac 674

<210> 151
<211> 685
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 151
ttgaggtcgc nctnacgcaa actgcagatc tttgtgaaga ccctcactgg caaaaccatc 60
gcccttgagg tcgagcccag tgacaccatt gagaatgtca aagccaaaat tcaagacaag 120
gagggtatcc cacctgacca gcagcgtctg atatttgccg gcaaacagct ggaggatggc 180
cgcactctct cagactacaa catccagaaa gagtccaccc tgcacctggt gttgcgcctg 240
cgaggtggca ttattgagcc ttctctccgc cagcttgccc agaaatacaa ctgcgacaag 300
atgatctgcc gcaagtgcta tgctcgcctt caccctcgtg ctgtcaactg ccgcaagaag 360
aagtgtggtc acaccaacaa cctgcgtccc aagaagaagg tcaaataagg ttgttctttc 420
cttgaatggc agcctcctgc ccaggccccg tggccctgga gcctcaataa agtgtccctt 480
tcattgacta ggaaaaanan attnnctnct aaaanaaaaa acttgtacct gcccgggcgg 540
ccgctngaaa agcccgaatt ccagcacact gggcggccgt tactagtgga tcncnagctc 600
ggntcccaan ctttngcgta attnngggtc atagctgttt tcctgtgnga aaattgntat 660
tncgcttaac aatttccnca caatc 685

<210> 152
<211> 545
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 152
ttgaggtcgc nctnacgcaa actgcagatc tttgtgaaga ccctcactgg caaaaccatc 60
gcccttgagg tcgagcccag tgacaccatt gagaatgtca aagccaaaat tcaagacaag 120
gagggtatcc cacctgacca gcagcgtctg atatttgccg gcaaacagct ggaggatggc 180
cgcactctct cagactacaa catccagaaa gagtccaccc tgcacctggt gttgcgcctg 240
cgaggtggca ttattgagcc ttctctccgc cagcttgccc agaaatacaa ctgcgacaag 300
atgatctgcc gcaagtgcta tgctcgcctt caccctcgtg ctgtcaactg ccgcaagaag 360
aagtgtggtc acaccaacaa cctgcgtccc aagaagaagg tcaaataagg ttgttctttc 420
cttgaatggc agcctcctgc ccaggccccg tggccctgga gcctcaataa agtgtccctt 480
tcattgacta ggaaaaanan attnnctnct aaaanaaaaa acttgtacct gcccgggcgg 540
ccgct 545

<210> 153
<211> 522
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 153
agagctntga tgagacngct cagtcagtct attgaagact tagaaaagtg gagcgcctat 60

ccagtgggcc ggagcagatc accctcgagc cagcagcact gagggacacc caggggctcc 120
cagccctcag cacaccgacc agaccgaggc cttccagaaa ggggtcccac acccagaaga 180
tgaccactca caggtagaag gaccggagag cttaagatga gactcattgt gtggtttgag 240
actgtcctgc cggcggccgt cgaaagccga ttcacacact gcggcgtcta gtggatcgac 300
tcgtccactt gcgtatatgc tactgttctg gtgaatgttc gtacattccc actcacccga 360
gataatgaag ctggngctat atactataat atggtnctat gcnttcatcg aactgctcac 420
tgatatatcg cacccggaag cgttntntgn cttcntctgt atatntgctn gctngttgga 480
cgntactnta agggatcgtt tcaaatngga tcccggaaac tt 522

<210> 154
<211> 541
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 154
ttcanangct ttgagtgaga ccagctcagt cagtcatatt gaagacttag aaaaggtgga 60
gcgcctatcc agtgggccgg agcagatcac cctcgaggcc agcagcactg agggacaccc 120
aggggctccc agccctcagc acaccgacca gaccgaggcc ttccagaaag gggtcccaca 180
cccagaagat gaccactcac aggtagaagg accggagagc ttaagatgag actcattgtg 240
tggtttgaga ctgtacctgc ccgggcggcc gctcgaaagc cgaattccag cacactggcg 300
gccgttacta gtggatccga gctcggtacc aagcttggcg taatcatggt catagctgtt 360
tcctgtgtga aattgttatc cgctcacaat tccacacaac atacgagccg gaagcataaa 420
gtgtaaagcc tggggtgcct aatgagtgag ctaactcaca tttaattgcg ttgcgctcac 480
tgcccgcttt ccagtccggg aaacctgtnn tgccagcttg catttaatga atcggccaac 540
g 541

<210> 155
<211> 834
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 155
gcggtgtccg gcaagagact accaagacag acgctatgac tgaggctgat gtgaatccaa 60
aggcctatcc ccttgccgat gcccacctca ccaagaagct actggacctc gttcagcagt 120
catgtaacta taagcagctt cggaaaggag ccaatgaggc caccaaaacc ctcaacaggg 180
gcatctctga gttcatcgtg atggctgcag acgccgagcc actggagatc attctgcacc 240
tgccgctgct gtgtgaagac aagaatgtgc cctacgtgtt tgtgcgctcc aagcaggccc 300
tggggagagc ctgtggggtc tccaggcctg tcatcgcctg ttctgtcacc atcaaagaag 360
gctcgcagct gaaacagcag atccaatcca ttcagcagtc cattgaaagg ctcttagtct 420
aaacctgtgg cctctgccac gtgctccctg ccagcttccc ccctgaggtt gtgtatcata 480
ttatctgtgt tagcatgtag tattttcagc tactctctat tgntataaaa tgtagtacct 540
gcccgggcgg ncgctcgaaa gccgaattct gcagatatcc atcacactgg cggccgctcg 600
agcatgcatc tagagggccc aattcgccct atagtgagtc gtattacaat tcactggccg 660
tcgntttaca acgtcgtgac tgggaaaacc ctggcgttac ccaacttaat cgccttgcac 720
acattcccct ttcgccagct ggcgtaatag ccnaaaaggc ccgnaccgat cggnccttcc 780
aacagttgcg caacctgaat ggcnaatgga ccccccttgt accgngcatt aacc 834

<210> 156
<211> 634
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 156
gagctctgat gagaccagct cagtcagtct attgaagact tagaaaaggt ggagcgccta 60
tccagtgggc cggagcagat caccctcgag gccagcagca ctgagggaca cccaggggct 120
cccagccctc agcacaccga ccagaccgag gccttccaga aaggggtccc acacccagaa 180
gatgaccact cacaggtaga aggaccggag agcttaagat gagactcatt gtgtggtttg 240
agactgtacc tgcccgggcg gccgctcgaa agccgaattc tgcagatatc catcacactg 300
gcggccgctc gagcatgcat ctagagggcc caattcgccc tatagtgagt cgtattacaa 360
ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac cctggcgtta cccaacttaa 420
tcgccttgca gcacatcccc ctttcgccag ctggcgtaat agcgaagagg cccgcaccga 480
tcgcccttcc aacagttgcg cagcctgaat ggcgaatgga cgcgccctgt agcggcgcat 540
taagcgcggc gggtgtggtg gttacgcgca gcgtgaccgc tacacttgcc agcgccctac 600
gcccgctcct ttcgctttct tccttccttt ctcg 634

<210> 157
<211> 613
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 157
ttanacatca anttgcgaag ggaaaacatc ctcaccgttc gctctgcggc atggtcctct 60
ccatccaggt tacctgtgtg cagcgacagc cagcctttac ggtgggcgat gtagtgcggc 120
gcgtgtgcct cctcgtaggt caccggcttg tccccttgc ttacgcgtac ctgcccgggc 180
ggccgctcga aagccgaatt ccagcacact ggcggccgtt actagtggat ccgagctcgg 240
taccaagctt ggcgtaatca tggtcatagc tgtttcctgt gtgaaattgt tatccgctca 300
caattccaca caacatacga gccggaacat aaagtgtaaa cctggggtgc ctaatgagtg 360
agctaactca cattaattgc gttgcgctca ctgnccgttt tccagtcggg aaacctgtcg 420
tgccanntgc attaatgaat cggccaaccc cggggaaaag gcggtttgcg tattgggcgc 480
ttttccgntt cctngctcac ttgactcgtg ccttcggtcg ttcggnttgc ggaaaagcgg 540
tattaagctt aacttaaaag gggggtaaat accggttntc cacaaaaatc ngggggaatn 600
acccccggga aaa 613

<210> 158
<211> 481
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 158
attcacatga acttgcgaag gaaaacatcc tcaccgttcg ctctgcggca tggtcctctc 60
catccaggtt acctgtgtgc agcgacagcc agcctttacg gtgggcgatg tagtgcggcg 120
cgtgtgcctc ctcgtaggtc accggcttgt ccccttgct tacgcgtacc tgcccgggcg 180
gccgctcgaa agccgaattc tgcagatatc catcacactg gcggccgctc gagcatgcat 240
ctagagggcc caattcgcct atagtgagtc gtattacaat tcactggccg cgttttacaa 300
cgtcgtgact gggaaaacct ggcgttacca aattaatcgc cttggagcac attccccntt 360
tcgccaactg gcgtaatacc aaaaaggccg gaaccgatcg cctttcaaca gttnccancc 420
tnatggcaaa tggacccccc tgtaccgggn attaacccgn cggtttgggg gtaccccaac 480

g 481

<210> 159
<211> 787
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 159
cccacatgaa ttgcgaagga aaacatcctc accgttcgct ctgcggcatg gtcctctcca 60
tccaggttac ctgtgtgcag cgacagccag cctttacggt gggcgatgta gtgcggcgcg 120
tgtgcctcct cgtaggtcac cggcttgtcc cccttgctta cgcgtacctg cccgggcggc 180
cgctcgaaag ccgaattcca gcacactggc ggccgttact agtggatccg agctcggtac 240
caagcttggc gtaatcatgg tcatagctgt ttcctgtgtg aaattgttat ccgctcacaa 300
ttccacacaa catacgagcc ggaagcataa agtgtaaagc ctggggtgcc taatgagtga 360
gctaactcac attaattgcg ttgcgctcac tgcccgcttt ccagtcggga aacctgtcgt 420
gccagctgca ttaatgaatc ggccaacgcg cggggagagg cggtttgcgt attgggcgct 480
cttccgcttc tcgctcactg actcgctgcg ctcggtcgtt cggctgcggc gagcggtatc 540
aagctcactc aaaggcggta atacggttat ccacagaatc aggggataac gcaggaaaga 600
acatgtgagc aaaaggccag caaaaggcca ggaaccgtaa aaaggccgcg ttgctggcgt 660
ttttncatan gctccgcccc ctgacaacat acaaaaatcg acgctcaagt caaaagtggc 720
gaaacccgac aggactatta agaaaccang cgtttcccct ggaacttcct tgngcgctnt 780
ctgttcc 787

<210> 160
<211> 429
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 160
ttgacatgnc ttgcgaagaa aacatcctca ccgttcgctc tgcggcatgg tcctctccat 60
ccaggttacc tgtgtgcagc gacagccagc ctttacggtg ggcgatgtan tngcggcgcg 120
tgtgcctcct cgtaggtcac cggnttgtcc cccttgctna cgcgtacntg cccgggcggc 180
cgttcnaaag ccgaattctg caaatatcca taaaannggc ggccggttca acctnncntt 240
naaagggccn anttnnccnn atangnantc gantnncant caannggccg cngtntacaa 300
aacntcngaa nngggaaaaa ccnngncgtt accnanctna atcgctcttg cagaatatcc 360
ctttttcnaa nttggcgtaa tcnaaaanag gcccgcacca atcgcntttc caaacatttg 420
cacactcaa 429

<210> 161
<211> 713
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 161
nttaaattct aatgttcttg agccatttga gaattagtaa tttttaaaca gacatattaa 60
tgctggagtg tagagaatat aattaaatat atcaaaaata tatcttttaa gcctagaaaa 120

tggatgcctt tggattacct tcatttcagg gtagagaaaa gcccttccta ctgaattagg 180
ctctgaacat gtgatttctt tccctaacac tagtttttcc aatctactaa tttatttata 240
aacaaagcaa agtaagagat atttttgctg ttactttgac aattctctct ctccaatccc 300
caacatcccg agttcagtgc acatctaaca attcactcaa gactaggcac ctgacaataa 360
gtgtttactt agtggtgtaa agtgaacaag aaaagcagca taataaagga ctgngttttt 420
atcagaggag ccttccttct gagtttttac ataagttgat gccttactgc acctttgaat 480
acaatgcttt gaattttgaa cacttgaata aaangttnga agctttgaat aaaatcctcc 540
tctttcanag taaaccttat tttagnacca gcattccttc catagcncat aaatntgtnc 600
aaaatgtncc tgcccgggcg gcccgtcaaa agccgaattc cagnanactt ggcggccgtt 660
actaggggga cccaanctng gncccaaact tgggcgnaat cangggccat acc 713

<210> 162
<211> 792
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 162
tntntccagc ctggacaaca agaagcgaaa ctctgtctaa aaaaaaaaaa aaaaaaaaca 60
cacacacaca acacaatgtt ttcacgcctg taaacctagc acattgggaa gccaaggtgg 120
gaggattgct tgaggccagg agttcaaggc tgcagtgagc tatgattgca ccactgcact 180
gcagcttggg tgacagagtg agatcctgtc tcaagaagaa gaagaaggag aagaagaaga 240
cgatgactag gaagatataa aagcagaggt gtaggagagg acaggctgta agggtcacat 300
gatgtaattc ccggtgcctc ttcctctaca cgtaaataag gggaaagagc tatcttgaat 360
ggctgcggta aggattagat tgaatagcaa acatttaagc atctggcaga naaggggtat 420
ccgaagtagt cagtgtcctg cctccctcct ccaggcctca ctgtgactga nctggctgct 480
gacaacctga gtctttatct catgacctga gagcttttcc aagccacaca gggacaactg 540
taattgccca aagggcanac gaaaattccc agaantgaac tctcaaaggc tgtaaatatt 600
ccaactccct catcttgagt gggaataatc tacacggaat caagctccan ttgcccacaa 660
tggcggggcc cttcatggnt tntctccttc cctggatact cttactccca tnaatgcttc 720
ctgggatcat tcttaaacta atgncctnna acttgcattg gggctacttt tggggaaccc 780
caancttaaa nt 792

<210> 163
<211> 521
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 163
atncagtttc cacatcgatg agcacgtgtt nacatcattg cactttccaa gggacttcct 60
tagaactggt aagngganca antantcntt ncccntggtg nnnntggtna acaccttnaa 120
aacanccntg ggtttcacnn nnntggggct ngacccattt naanctgcca tgnggacttg 180
cacaaaantt ccacttctnt gccccatntg gttctngngc ntttatanct gcggcanatt 240
cntctccgag ntgtaaatac actgccccat gttgaanang gccnanctgc cnggggcggc 300
cgctcnanaa ttccaccana ggtggcnggn gttactaggg gntcnnnctt ggcaccantn 360
ttggcgtaat cntggtcata gcttgcttcc tgaganaaat tgtcatccgc ncanantncc 420
acacnacnta ccagccggat ncatanngtg taaagcctgg ggtgcctaat gagtgaacta 480
acttacatta attgcgntga cntactgcct nctttcagg a 521

<210> 164
<211> 714
<212> DNA

<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 164
tnttcctttg tgaacataga tccttttttct tggtggaaat actgagtttt ggttttgcta 60
ttcagcatgt ccttctttct cttcttggct gcaacatcat agttcaggct gttgaaaaga 120
ttctccttat tgtatacctc cttgttgcag tagctgctga ggtcgctcac gaaactgccg 180
ctcttctcat ccaggaagcg cttccagccg tcggccgtct tcacccagtt ctgcccgggc 240
ggccgctcga aagccgaatt ctgcagatat ccatcacact ggcggccgnt cgagcatgca 300
tctagagggc ccaattcgcc ctatagtgag tcgtattaca attcactggc cgtcgtttta 360
caacgtcgtg actgggaaaa ccctggcgtt acccaactta atcgccttgc agcacatccc 420
cctttcgcca gctggcgtaa tancaaaaag gcccgnaccg atcgcctttc ccaacagttg 480
cccancctga atggaaatgg acccccctgt acgggccatt aancncggcg gtgtggnggt 540
naccccccaac ntgaccggtt acacttgcca gcgccctagc gcccgtcctt tcgctttctt 600
cccttccttt ctcgccacgt tcgccggctt tccccgtnaa gctctaaatc gggggctccc 660
tttagggttc cgatttaagn gctttacggc accttgaccc caaaaaactt gatt 714

<210> 165
<211> 541
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 165
ttcctttgtg aacatagatc ctttttcttg gtggaaatac tgagttttgg ttttgctatt 60
cagcatgtcc ttctttctct tcttggctgc aacatcatag ttcaggctgt tgaaaagatt 120
ctccttattg tatacctcct tgttgcagta gctgctgagg tcgctcacga aactgccgct 180
cttctcatcc aggaagcgct tccagccgtc ggccgtcttc acccagttct gcccgggcgg 240
ccgctcgaaa gccgaattct gcagatatcc atcacactgg cggccgctcg agcatgcatc 300
tagagggccc aattcgccct atagtgagtc gtattacaat tcactggccg tcgttttaca 360
acgtcgtgac tgggaaaacc ctggcgttac ccaacttaat cgccttgcag cacatccccc 420
tttcgccagc tggcgtaata gcgaagaggc ccgcaccgat cgccttccaa cagttgcgca 480
cctgaatggc gaatggacnc nccctgtanc ggcgcattaa acncngcggg tgtggtggta 540
c 541

<210> 166
<211> 617
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 166
tgancccccc acctctgact ctccggtgta ggaggtgatc atcaggcaat ctcttgggcc 60
ttaaagggtg cgcagtcgtc ctcagccagt gagatgttgt gacaagggtt tttttgctgg 120
atgggtttaa aaacacagac aaatttaggc ccatcccatt ttctcagatc tttttttgag 180
aattgaggca ttttaaataa ggggtagaaa tggccccctg gtgtggtctt cccaaggttt 240
tatggagggg atttcagact gttataacaa tagatcttga acctctgcca tgtggagaaa 300
agccaattta gcaaactaga agaatgaaaa ggaaaaaaat catggccaaa actttgggaa 360
aaagatgttc ttaaaatcat tgttcccctt tgtttgtacc tgcccgggcg gccgctcgaa 420

agccgaattc tgcagatatc catcacactg gcggccgctc gagcatgcat ctagagggcc 480
caattcgccc tatagtgagt cgtattacaa ttcactgccc gtccgtttta caacgtcgtg 540
actgggaaaa ccctggcgtt acccaactta atcgcctttg cagcacatcc cccttcgcc 600
actggcgtaa tagcgaa 617

<210> 167
<211> 715
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 167
tagatccccc agcctctgac tctccgtgta ggaggtgatc atcaggcaat ctcttgggcc 60
ttaaagggtg cgcagtcgtc ctcagccagt gagatgttgt gacaagggtt tttttgctgg 120
atgggtttaa aaacacagac aaatttaggc ccatcccatt ttctcagatc ttttttgag 180
aattgaggca ttttaaataa ggggtagaaa tggccccctg gtgtggtctt cccaaggttt 240
tatggagggg atttcagact gttataacaa tagatcttga acctctgcca tgtggagaaa 300
agccaattta gcaaactaga agaatgaaaa ggaaaaaaat catggccaaa actttgggaa 360
aaagatgttc ttaaaatcat tgttcccctt tgtttgtacc tgcccgggcg gccgctcgaa 420
agccgaattc tgcagatatc catcacactg gcggccgctc gagcatgcat ctagagggcc 480
caattcgccc tatagtgagt cgtattacaa ttcactggcc gtcgttttac aacgtcgtga 540
ctgggaaaac cctgccgtta cccaacttaa tcgccttgca gcacatnccc ctttcgccag 600
ctggcgtaat acgaaaaggc ccgcaccgat cgcccttcca acagttgcgc agcctgaatg 660
gcnaatggac gccccctgta ncggcgcatt aagcgccggc gggtgtggtg ggtac 715

<210> 168
<211> 820
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 168
tagtcagatc tgcatggttg agagcatcgg ctgggttccc attggctcgt tggatgtgga 60
aaagtgcaaa agggcaactg aaattttgag tgataaaatc tatcgccagc cttcagacac 120
attcaaattt accagtgtgc ctgattctnt ggaacaagtg ttggccaaga acaacgccat 180
naacatgaac aagcgtttat nccccngaan cctnggacna agaccagacc cagatcncat 240
tatgcctgat cnccagaaat tatgttggcc agaatgaacc agattnactt ccgggagact 300
ntgtattaac tngccnatga anaanccnag aaaaaaggnt tcnanctgng aaatgatgcc 360
nttcccattg tgggcccnaa ggctntccgg gcaattgnna gngcttncat ncaaattggt 420
tccccaanca nntttggncc canttgagcc ccggacattt aaaatnnncc ccanaatatt 480
ngggcctttc cctnggccaa ttcccantgn cccngagtac ctttcccggn ggggcctttt 540
aaaacccatt tnccacactt gnggggggcgt ttcttttttgg ntncccnctt tgggnccaaa 600
nttttgggga aaattgggnt aaatggtttc ccgtgggaaa aangntntcc cctnncaaat 660
tttcccaaca ttttancccg gagnctntaa angttaaanc ccgggggggcn cattaagngg 720
gccnncnccc ttaattgggg ggggcccctt ggccctttttt tannggggaa annttttngc 780
cnccnnctttt tttnaantng ccccccccccn gggggggggg 820

<210> 169
<211> 808
<212> DNA
<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 169
ntttttntaat ccatcatctt caattgaagt aaacttgaga gtttctggat gttggcgata 60
ttttttctca ttcagaatgt ctgaagctcg ctttgccttt tccatttcca aggacccaaa 120
aggtatccag ccacaacctt tcatccagct gttgtagtca gctttgtatt caacatcgct 180
ctgcagcgca taagccttct tggcgaggtc cacgttgatg ctatcaggcg ggtagctata 240
gttgtgtaag aggtgcttat agtccacgtc gctggcaatt gcctgagatt tcttagcttg 300
agtgacttgg agcatgtcaa gaggtgccgt gtagatagtt ttggactttt catagtcttt 360
acgatattca cgatcactct ggtttttggc cgtcttcaaa gagtgcaaca ttttgggatc 420
atcgttgatg ctgagggctc caatcatctt ccctttgctt ttctcatagt ctttcttgta 480
cctgcccggg cggccgctcg aaagccgaat tccagcacac tggcggccgt tactagtgga 540
tccgagctcg gtaccaagct tggcgtaatc atggcatagc tgtttcctgt gtgaaattgn 600
tatccgtcac aattnccaca acatacgagc ccggaacata aagtgtaaac ctggggtgcc 660
taatgagtga ctaactcaca ttaattgcgt tgcgctcact ggccgctttn caatcnggaa 720
acctgtcntg ccactgcatt aatgaatcgg caacncnccg ggaaaagcng tttgcgtatt 780
gggcgctntt tcnctttctn gntaatga 808

<210> 170
<211> 789
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 170
aacctttatt ttgtgtgtga aatggttatt aagtccttct atcaggttag gattccaatg 60
aaaagtgttc tcatgaacat ctctagggct cagttgtatg tcatgtagcg aggagtagca 120
ctgaacttgg cataggactt aataacctta tttacagctt ccaagaaatc cttctccgta 180
gcaatttttc gccgtgctcg gatggcaaac ataccagctt cagtgcagac acttctgatc 240
tcagcacccg tgctatttgg acagagtcgt gctaacaatt caaatctgat atctctttca 300
acactcattg aacgggcatg gatcttaaaa atgtgagtcc gaccccctag atcaggtaag 360
ctaaactcaa tcttcctgtc cagtctccct ggcctcatca gcgctgggtc canagtgtca 420
ggtctgtttg tggccattac actttaatgt tgcctcgagg atcaaacccg tccagctggt 480
tgatcaattc caacatcgtc tntgcacttn atgncacccc cagcaccatc atcaaaacgg 540
gcccctncaa tagcatcgat tcatcaaaga agataaggca ggctttcttg ggtctggcca 600
tttcaaanac ttntnnaacc attcgagccc cttaccacat acttttggac aaagctcana 660
cccaataact cgaatgaanc aagcnttggg cctgttaaca actgcccnan cncaaagtgt 720
tttgccttgt acctgcccgg gcgggccgtt naaagccnaa ttccncaaan tgggggccgt 780
tctaanggn 789

<210> 171
<211> 644
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 171
ttatgtattg tcgtgtaggt ataagcttac tagcagtgta aacacataag cttggatcan 60
agctnctgca aattcaagaa tagttaatag aatgaggata gtaaatgtga taaaagctgt 120
tatagtgttg atgttgagta gtgctaatgt ggcccctcca attagatgaa ttaataggtg 180
ccctgctgta atgttggctg tcagtcgtac ggctagggct actgggtgaa taaataggct 240

aatagtttca ataattncga gcntangaat tnatagggng ggtgttcctt gtggtaaaaa 300
gtgggctntt gatgttttgg gtttatancg gaancctgtg aataccggng ctgatcatag 360
ggggatngct nttcccncgt tatngaaann tgtgtggngg gngtgaanna angtgggant 420
angccccaga tnttttttnna cccnntaaaa ttntttnaga tattnnnntt tnnggncacg 480
gntggccntt tgggngngaa nanctntntt tgnntggnan ntnnnnggnn naancntngn 540
gganccaaan ttgcnggntt ttaaananac nntnggggtt nggaaaannn anccngggaa 600
attatanttt nnggggggcac nnnggggnncc nntnttnngg gggg 644

<210> 172
<211> 784
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 172
tacttctact atccctgccg ttctagcagc tggcattact atactactga cagaccgcaa 60
cctgaacaca acctttttg atccagcagg tggtggagac cctatccttt atcaacactt 120
gttctgattt ttcggacacc cagaagtata cattctcatc ttaccaggat tcggaataat 180
ctcccacatt gtaacctact attcaggtaa aaaagaacca tttggatata taggcatagt 240
atgagccata atgtccattg gattcttagg ttttattgta tgggctcacc acatattcac 300
cgtaggaata gacgtagata cccgagcata ctttacatct gctacaataa tcattgctat 360
tcccactgga gtaaaagtat ttagttgatt agctaccctg cacggcggca atattaaatg 420
atcacccgca atactatgag ctctgggctt catcttccta ttcaccgtag gaggtctaac 480
gggcattgta cctgcccggg cggccgctcg aaagccgaat tccagcacac tggcggcccg 540
ttactagtgg atccgagctc ggaccaagct tggcgtaatc atggtcatag ctggttcctg 600
tgtgaaatgg tatccgntca caattcccac ancatacgag ccggaagcat aaagggtaaa 660
gcctggggtg cctaatgagt gactactcac attaatggcg ttgcgctnat ggcccgtttt 720
cantcgggaa actgncntgc cactgnttaa ngaatcggca acncccgggg anaggcggnt 780
tgct 784

<210> 173
<211> 733
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 173
ttagacttct actatccctg ccagttctag cagctggcat tactatacta ctgacagacc 60
gcaacctgaa cacaaccttt tttgatccag cangtggtgg agaccctatc ctttatcaac 120
acttgttctg atttttcgga cacccagaag tatacattct catcttacca ggattcggaa 180
taatctccca cattgtaacc tactattcag gtaaaaaaga accatttgga tatataggca 240
tagtatgagc cataatgtcc attggattct taggttttat tgtatgggct caccacatat 300
tcaccgtagg aatagacgta gatacccgag catactttac atctgctaca ataatcattg 360
ctattcccac tggagtaaaa gtatttagtt gattatgcta ccctgcacgg cggcaatatt 420
aaatgatcac ccgcaaatac tatgagctct gggcttcatc ttcctattca ccgtaggagg 480
tctaacgggc attgtacctg cccngncggc cgctcgaaaa gccgaatttc agcacactgg 540
cggccgttna ctagngggan ccgagctcgg taccaagctt ggcgtaaatc atggtcatag 600
ctgnttcctg tgtgaaattg tatcccgctc acaattccac aacancatnc gagcccggaa 660
accataaant tgtnnagcct gggggcgcct aatgaggtgg agccttactt nncatttaat 720
tgccnttgcg cnc 733

<210> 174
<211> 712

<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 174
tntacttcta ctatccctgc cagttctagc agctggcatt actatactac tgacagaccg 60
caacctgaac acaacctttt ttgatccagc aggtggtgga gaccctatcc tttatcaaca 120
cttgngtctg atttttcgga cacccagaag tatacattct catcttacca ggattcggaa 180
taatctccca cattgtaacc tactattcag gtaaaaaaga accatttgga tatataggca 240
tagtatgagc cataatgtnc attggattct taggngttat tgtatgggct caccacatat 300
tcccgtagga atatacntaa tcccgagcat actttacatc tggacaataa tcattggtat 360
tcccactgga gtaaaagtnt ttagttgatt agctaccctg cacgggggna attttaaatg 420
atcncccnca atactttgaa cnttgggctt aatcttccta ttaccgtagg aggnntaacg 480
ggcattggac ctgcccgggc ggccgttnaa aagccgaatt ccngcaattg ggggccgttn 540
taggggatc caacnttggn ccaacttggn gtaannangg gnatacnggt ncctgggaaa 600
aangntntcc gtcaaattcc ncacaattcn gacccggaan cntaaagggn aaacntgggg 660
ggcctaanga ggggncnanc tccnttaatn gggttgnnct cactgnccnt tt 712

<210> 175
<211> 779
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 175
ttctaggggt ttagtgggtg aattcctgtt ggtggtcagc aacctcctaa ttcgggtgtt 60
ggtgctaggc ttgagtggta gaaagctcaa aagaatccag tgaagaacag aacctcggaa 120
ataataaata aaattatacc gtatcgtaag ccttttttgga caactgatgt gtggtggcct 180
tggaaagtgc tctctcgaat aatgtctcgt caccattggt atattgtcaa agtattggtt 240
aatagtccta gagatagtaa gagtatagag ttaaagtgga atcatatagt taggcctgat 300
gttattaaaa gggctggtag ggctccggta agtggtcatg ggcttgggtt tactatgtgg 360
tatgcatgtg tttggtgggt ccccgcgtac ctgcccgggc ggncgctcga aagccgaatt 420
ctgcagatat ccatcacact ggcgggccgc tcgagcatgc atctagangg cccaattcgc 480
cctatagtga gccgnattac aattcactgg ncgtcgtttt acaaccgtnn ngactgggaa 540
aaccctggcg ttacccaact taatcgcctt gcagcacatn ccccttccgc cagcttggcg 600
taatagcgaa aagcccgnac cgatcgcctt cccacagttg cgcaacctta atngcnaatg 660
gcccgccctg taaccggggc cattaagcnc ggcnggntgt ggtgggtacc cncaangtga 720
cccgttnnan ttggcagnng cccntnacnn ccngttcctt tggntttntt nccttcccn 779

<210> 176
<211> 722
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 176
gctttctaga aacggataca accttgacta gagagtaaaa tcttaatact accatagtag 60
gcctaaaagc agccatcaat tgagaaagcg ttaaagctca acaaattcac caacataatc 120
ccaaaaacta ataacaaact cccagcccaa taccggacta atctattgaa acatagaagc 180

aataatgtta atatgagtaa caagaagcct ttctcctcgc acacgcttac atcagtaact 240
aataatatac tgataattaa caaccaataa accaaaaaaa aaaaaaaaaa gaaagtacct 300
gcccgggcgg ccgctcgaaa gccgaattct gcagatatcc atcacactgg cggccgctcg 360
agcatgcatc tagagggccc aattcgccct atagtgagtc gtattacaat tcactggccg 420
tcgttttaca acgtcgtgac tgggaaaacc ctggcgttac ccaacttaat cgccttgcag 480
cacatccccc tttcgccagc tggcgtaata gcgaagaggc ccgcaccgat cgcccttccc 540
aacagttgcg cagcctgaat ggcgaatgga cgcgccctgt agcggcgcat taagcgcggc 600
gggtgtggtg gttacgcgca gcgtgaccgc tacacttgcc aagcgcccta gccgcccgnt 660
cctttcgctt tcttcccttc ctttctcgcc acgttcgccg gnttttcccg tnaagctntt 720
at 722

<210> 177
<211> 820
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 177
tcggtcctcc ggagtccttg gaacaagcaa ctggctattg aaaaggttat tttgtaacat 60
tttgtctaac tttttacttg ttttaagctt tgcctcaggt ggcaaaatca ttttatgtgc 120
cattttgttg ctgttattca aatttcttgt aatttagtga ggtgaacgac ttcagatttc 180
attattggct tggatatttg aggtaaaatt tccttttttgt tcatatagtg ctgacttttt 240
ttgtttgaaa ttaaacagat tggtaaccta atttgtggcc tcctgacttt taaggaaaca 300
agtgtgcagc cattacacac agcctaaagc tgtcaagaga ttgactcaac attgccttca 360
taccttaaaa ttaaaaacct acaaaagttg gtgtaaattt gtttgtatat gttatttacc 420
ttcaggtcta aatggtaaac tgaacccaaa tttgtataaa gacttttcag gtgaaaagac 480
ttgatttttt tgaaaggatt gtttaccaaa cacaattcta atctcttctc ttatgtattt 540
ttgtgcacta ggcgcanttg tgtagcagtt gagtaatgct ggttaagctg gtaangtggc 600
cttgttgcan tgcaaantgc ttggctggtt nctggtttct cctgatgctc ctgngtaaaa 660
naagccttgt cgtgccaaaa acaaaagggt ggccagttta attaaantgc ctgacaactg 720
nactttccan caaaccgggc cttgcatata aataccggac cntccanngg gccncntttn 780
ccgaggatna aatnccccct ttttttttctc cctccccccc 820

<210> 178
<211> 812
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 178
gatgcacgga acggactgct ccttagaact ctggagggcc cagcaaaacc attctctgca 60
tgaaggtggt gaatgacctt gtgttcagtg gttctagtga tcagtcagtc cacgcccaca 120
acattcatac tggtgagctt gtgcggatct ataaaggtca caatcatgca gtgactgcgg 180
tgaatatcct aggaaaagtg atggtgacgg cttgcctgga taaatttgtt cgtgtctatg 240
aattacagtc ccatgatcga ttgcaagttt atggaggaca caaagacatg attatgtgta 300
tgaccatcca taaaagtatg atttatactg gctgttatga cggcagtatt caggccgtga 360
ggctgaatct gatgcagaat taccgctgct ggtggcatgg ttgtgctctg atatttggtg 420
ttatagacca tttaaaacaa cacttgctga ctgaccatac aaatccaaac tttcagactc 480
tgaaatgtcg ctggaagaac tgtgatgctt tttttactgc taggaaagga tccaaacagg 540
atgctgcagg acacattgaa cgggatgctg aggatgacag caaaattgat tcatgaaagt 600
tttttgcctc catgttggga agtctttaat tgaagtaatt tcacattggc cccttacata 660
ggccantgnc ttcctttctc agtgaaagaa gggaanaaaa aagtggtact tagcangctt 720
acccccctagc ataatctngg caactctatn ggatgatagg gtatactttn aantcttgct 780

ggaggttgnc aaattaacag gtttttaagg at 812

<210> 179
<211> 730
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 179
ntatagggca gcgtggtcgc ggcccgagtt actagttcct aaaaaggtgg aagctccacc 60
tgccaaagtg ccagaagtgc ccaagaagcc tgtgcctgag aagaaggtgc cagttcctgc 120
tcctaagaaa gtagaggctc cacctgcaaa agtgccagag gtgcccaaga agaaaatccc 180
agaagaaaag gagccaacac ctgttccgag aaaagtggaa gctccaccac ccaaagtgcc 240
caagaaacgt gagccagttc cagttccaat tcctgtagct ctactccggg aagagaaagt 300
tacatttgag gaagaaatag ttcttgaaga ggaagttcta ccagaggaag aggaagttct 360
ccctgaggaa gaggaagccc caccagagga ggaggaagtt gtacctgccc gggcggccgc 420
tcgaaagccg aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa 480
gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc 540
ccacaacata cgagccggaa gcataaaagt gtaaaagcct ggggtgccta atgagtgagc 600
ttacttacat taattgcgtt gngctcactg nccgctttca ngtcggggaa accttgtcgt 660
gccacttgca ttnatgaatc ggccaacncc ccgggganag gcggtttngc gttttgggcc 720
cctttttcc 730

<210> 180
<211> 724
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 180
nttnttтctt nctttttttt ttttttttt tttgcccgag gtgtgtttat tttcattaat 60
catacaaata attttctata atatcccagg gcaaaccgga taatttggca gtccgattgg 120
agggtccctt cgganaccca ggggccgatg gcatcggcac anagcgcccg ggttcacagt 180
gcagcttgtc gcttgngtcc atnttgcagg tggctnttcc tccacatccc gattagggtc 240
tccaanatgt tgggggtgga naatcctccc ggttcttagg aaatttcact tggcttgctt 300
ctcctgctca atggtctctt tggtgggcag ggtgttcttc tcctgcgtct ccgtcttctt 360
cagcttggcc ttgtcgaanc tgttgatttc gcccatgtcc ggcttgtctg ccattttctt 420
ataacaatcc gagaagttcc gctgaaagcc caaggtgctg ctactngcac tcgcctngct 480
gcancaagan accccgcgt acctgcccgg gcggccgttc aaacccaatt ncacanactg 540
gcggccgtnc tantggatcc caactcggnc caaacttggn gnaatcatgg catanctgtt 600
nctgngngaa aatgntatcc nntnanattn cncccannta cnanccggaa ncntnaaann 660
gtnaaaccct ggggngccnt aatnanngan ctaactnaan nttnantgnc ntnncnctnn 720
ctnc 724

<210> 181
<211> 712
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 181
tcactcacaa aaaaaagtga aacattagag cctttgttcc tatgccctcc atgatttgta 60
actataatac ataatacatt tccacttgta taaattacac aagacaccat tatattcttc 120
ttcagttatg tgatgcatat aaacgaatta gtaggaaaaa agcaaagaaa aattattcct 180
ttgcatctac aatttttatc ttattcattc ttttgcgaag acacagatat ccatctagca 240
ctatttaccc tcagcttgag gaactttctt tagcattttg aggtctgctg attatgatag 300
tgttagtctt attgtggttg cctgatggga gggggaggga gtgggaggga tcgggagctt 360
gggcttatca gtcacaacgt anaatagatt tacaaggaga tcccgctgaa gagcattgag 420
aactatgtct agatctcatg ttgcaacaga agaaatggng ggggaaaaac tgtaattgga 480
atgnatacat gtaaggataa cctgcccct tgctgncctg cccgggcggg ccgtcgaaag 540
ccgaattcca gcacactggc ggccgtacta gnggatccga nctcggacca ncttggcgta 600
atcatggnca tagctgnnnc ctgngngaaa tngntatccg gtccaattnc cncnncntcc 660
agcccggaag cntaagngtn aanccntggg gngcctaatg antganctac cc 712

<210> 182
<211> 715
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 182
tnttttttttt ttttttttttt ttttttttcc nctttacagc aaggggggtca ggttatcctt 60
acatgtatac attacaatta cagtttttcc cccacccttt gttctgttgc aacatgagta 120
tctanacata gttctcaatg ctattcagca ggatctcctt gtaaatctat tctaagttgn 180
gtctgataaa cccaagctcc cgatccctcc cactccctcc ccctcccatc aggcagccac 240
aagtctnttn tccaagtcca tgattttctt ttctgaggan atgttcattt gtgctggata 300
ttanattcca gttataagtg atatcatatg gtatttgtct ttgtctttct ggctcatttc 360
acccaggatg anattctcta gttccatcca tgttgctgca aatggcatga tgtcattctt 420
ttttatggct gagtagtatt ccattgngta tatataccac ttcttctgaa tccaatcatc 480
tgtcgatgga catttgggtt gtttccatgt cctggctatt gngaatagtg ctgcaatgaa 540
catgtgggtg cacgtgtctc ttttaagtaa aagttttgnc cggatagatg cccaaaanta 600
ggattgcggg gtcatatgga agtctatgta taanattcta angnatctcc aaactggtct 660
ccatannggc tgnacctgcc cggcgggccg ttcaaagccg aattccanca cactg 715

<210> 183
<211> 567
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 183
cctcaaaaaa aagtgaaact tagagccttt gttcctatgc cctcctgatt tgtaactata 60
atacataata catttccact tgtataaatt acacaagaca ccattatatt cttcttcagt 120
tatgtgatgc atataaacga attagtagga aaaaagcaaa gaaaaattat tcctttgcat 180
ctacaatttt aatctaattc attcttttgc gaanacccag atntccatnt agcactattt 240
accctnagnt tgaggaactt tctttagcat tttgaggtct gctgattatg atagggttag 300
ncttatnggg gttgcctgat gggaggggga gggagtggga gggatcggga gcttgggctt 360
atnagncnca acgtanaata natttacnng gganatcccg ntgaanagcn ttganaactn 420
tgntananac tcanggntgn ccanaaaaaa ngggggggga aaaaactgnn nttgnnangn 480
aacntgtngg atanccgccc cnttggtgna cctgccnggg ggggncntta aaanccnaat 540
ncnncactgg ggggcngtnc tagggga 567

<210> 184
<211> 763
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 184
ttganaagnc nttcaggnat atccttacat gtatacatta caattacatt gtttccccca 60
nccttttnttc tgntgcanca tgagnatcta gantaagnnt ctcnatgcta ttcancagga 120
cctggcttgn aaatctattc taactngtgt ctgataagcc caagctcccg ggccctccca 180
ctccctnccc cttncatcan gcagccacaa gnntcttctn canntncatg attttctttn 240
ctgaggagat gctcatttgn gctggatatt agatnncagt tataagtgat attcatatgc 300
tatnngcctt tanctttctg gctcatnnca ctcagtatga gattctctag ntccatccat 360
ggtgcttgcn aatggcatta ngtcattctt tttttatggc tgaccncnta ttccattggn 420
gtatatanac cacctctccg aatccagncc atntggnnat gnacattttg gntnncctcc 480
atgtgcctgg nntntngtna atantcccca gttccttgcc cgggaggccc gttttaaagc 540
cnanttccag gcccacttgc nggcngttcc tantgggatc ccaaacctcn ggngccaaaa 600
ncttggggcg aaacnnntgg nccntaggnt gaatcnngnn nngaatttng atttccgctc 660
cnanattccn nnccgcatta cntaacccgg aaanatnaaa ggngnaaccc ctgggggggg 720
ccntantnga cgnacnttaa nnccatttta nntcnngtnn gcc 763

<210> 185
<211> 804
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 185
atcanaaagt gtttctagaa ataacttaat agaagcttgg tcataaatga gaatagtcat 60
aacaacgatc tcccttacca aggcattcca cacagagaaa taacacaata aataaagaat 120
ctgccatttg tcacataaca aataaaaaag aattgcaaca acaaaaacta caattttaca 180
agtgttctta tactaaaaat aaaagcaaaa atatgagatc atgcactaga gacaaaagct 240
acaagtgaag agttatagca aaaaacattg caaaaaataa aaatgttcaa gtattgcaag 300
aggagagggg aagattgaaa tgaaacagtt tcaggataaa tcaattatat ttactactct 360
aggagggaca ctgacataat tgnctttgcc attaatactt tatgctgtta aaatacacac 420
tattatccat ttagaggaca gataccattt ccttggggca cctctcatat tacaaggatg 480
gaataaaatt cactgnttac cttgactata aataaatgat aatactttag gagaaatatt 540
cgcaaaagca ggccagtgtg atgccctgga atagtaagaa ccttggtgtt aggaaactgg 600
gtctagtcct attattttat atcattggct gtgaaagata cttccccggg tcctgcccng 660
gcgggcgttc gaaagccgaa ttccanccac tggcggccgt actagtggat ccganctngg 720
accaacttgg nngaancatt gggatanctg gttcctgggn gaaaatggta tccnttncca 780
attcccacan nttccaaccg gaac 804

<210> 186
<211> 811
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 186
tgnccgctca ccaagaggat aactctcata tccactgaga acacagataa ttctcagtaa 60
ttggtaaaaa atgaagatga atggggctga gagataagga gcaattagct catcagcagt 120
tacagctgtg cactcaatcc ggatccatct cttgagtctc ggccccttt aaagaaccta 180
agcagaataa gcataggaca ccccctcccc aaaaattgct agacctgccc atcatttctc 240
tcgtcttcca ctttatttcc tcaccataca aagacacctg tcatagcatg ctatgtaaat 300
taccacctct ctcaggacct atgtctaaag ccaatcttct ttttaaactt tttttttat 360
aacagaaacc aaatgactac tgtagacact tttaaattcc ctgtcaaccg tttcattata 420
gcagcatcat ctgtttgaaa atataagcaa ttccctcatc taattatagg aaggatttga 480
ggttcattaa cattgccaag gcagagaatc cagtgtgcaa cttcagagct ttgcttggtg 540
gcctgtgttc tcagtttcct tttattgctt tctcaaggtc tccaagactt tttcctgaaa 600
tcataaaatt aagttttcct tncaaataga cacgtgagat agaagaaagg aaatgactac 660
agtgtaaact attttatttc tttgggaatt ggttaagaaa aaaaagatta gaaggatggt 720
cactggggaa agataatttt atctctctat cgtcaagggt ctttttttt ttttttttna 780
atgggttggt ttgtgggtan ggggncaaaa a 811

<210> 187
<211> 636
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 187
tctcagtagt gaaaatttct accaagtata aaagagaaac tagtaaaaaa tctatttata 60
aaccattttt agtttgagaa gagttatggc aatttaaaat atgtaaacta tcttgaaggt 120
tattcaagta ataagtgcca actatttaga tattttaaga ttttaagatg ctcagcattt 180
ttactggcat gtttaataaa atgttctctt tttaattgaa gaatgcattt ttaaaggcta 240
ctagtagaat gactgaaggt atattaagtt ttatggcatt ttaaaaaatg taatagccac 300
atgtataatt ttacttaata tccataagtt taattttata tcttctatat atatttgagt 360
cagctttcaa cattgaaaaa aatttcaagt taaacaacaa aaatgtcagt gtatctaaaa 420
aagacttatt gagaaagcaa gcnaaaaaaa aaaaaaaaaa aaaaagtcct gcccggcggc 480
cgaagccgaa ttccagcaca ctggcggncg ttactagtgg atccgagctc ggacnnagcn 540
nggccgtacc atgggcatan ctggttcctg ngtgaaagtg gatcccgtca cnatttcnca 600
ccacatngaa ccggaaacat taaaggtgta aaacct 636

<210> 188
<211> 615
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 188
aaaattaaat naggaccaat tagtgcaaaa atgcattaaa taaagctctc cagaatctaa 60
ggatctgcct cattctgaac aatgaaatgg gggggaaata tcactatgat tcacactcac 120
ttaaaagaga ggccgacaca gccattgaca gaaaaaaaag caaaccattc tgttcaacag 180
actgctggct tgccacaaga gaataccatg ctctgggaga ctaataacct aattatccca 240
gacatttggg ttggcacgat accacgtttc ctttacaatt ctatncttca attnggaaat 300
gtttaagggn accctccaaa gccnattnng gaaaagtnag acttttatac atacactcnc 360
acaaacacac ccatacanag atacncgaat ggnttgnnta ctaaatttcg cactctaant 420
ttaaattccn tgccntcatg agggccngct gttgttgatc aaagcggtaa aggngatatg 480
ngtgactgag attctttcaa tttaaaatgt gcatgttggg gccnatacan nacctgtncc 540
ggcggggctc taaaacccaa atttgnnaaa ttccttcact gggggggcnct ttacntgcnt 600
tttaanggcc caatt 615

<210> 189
<211> 512
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 189
gctataaaaa tnaaatnaag gaccaattag tgcaaaaatg cattaaataa agctctccag 60
aatctaagga tctgcctcat tctgaacaat gaaatggggg ggaaatatca ctatgattca 120
cactcactta aaagagaggc cgacacagcc attgacagaa aaaaaagcaa accattctgt 180
tcaacagact gctggcttgc cacaagagaa taccatgctc tgggagacta ataacctaat 240
tatcccagac atttgggttg gcacgatacc acgtttcctt tacaattcta ttcttcaatt 300
aggaaatgtt taagggaacc ctccaaagcc gattagggaa aagtaagact tttatacata 360
cactcacaca aacacaccca tacagagata caggaatgga ttgtctacta attttcgcac 420
tctaatttta aattccatgc catcatgagg gcctgctgnt gttgatcaag gcggtaaggg 480
taataggtgt gactgatatt ctttcaatta aa 512

<210> 190
<211> 793
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 190
tatgaacaca tatctctgct tcagttgaag aacccagcca aataaaaaga ccaatattaa 60
aagcagcatt aactagttac tgccttaaag atacataaaa agaatcaaat gctacagtgt 120
gtaggacgat catcaccccc atgtcagaaa acacaacctc ttccaaataa agaatatgac 180
ccatctgcca tattgaattg atatttattt caggacatgc catgtcaaaa taaaacaaaa 240
gagtcaaccc tcgcctccaa caataatatt gtattataaa agcactttac aactccatcc 300
cgtctttagt ataagttact ggggtatgtg ggctaatgat tatctgaaag catttcccta 360
ttcagaccca taatccaagt gctctctgaa cattacaagg tgacagtaag tgggaagtgg 420
aggaggaaga ggaaagagag gggccgtaag attcttccag ttaagggtgt tgcaatgagg 480
ggatgggaaa gtatgaagat attttggtgg nctttttcatc tttatactgg gttaagtaat 540
gcttacaaca taaatcagca gcttttcctg actgtaactc agaaatttct tcctgcaaac 600
aatggattta caaatgtgtt attaacttca cagcattctn aaattactag tagtttaaaa 660
tggngcactc ttaagtatat tggntgcagt ggtttaaggg aaanacntat tggcattngg 720
gntgacgctt aaacnnctgg ataaancatn taaaattnga aggnnttaaa aaaanggcan 780
nnaantaatt tnn 793

<210> 191
<211> 718
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 191
attttttctt ttttttttt tnttttttgaa aaactgttaa tttattgatt cattgaaatt 60
ttttttttaa acaatcccca ttacatgcag ttcaggatta agtatcacat ttgtagcaca 120

ttgttgagtc tccacacaaa agtatgcatc acctgtataa ttccatcaca tcaccttccc 180
cagcctntac aatacctggt tggggtcatt ttcactgaca catccataca gctccaaagc 240
atacgttatt actggttttc tcagccanat gtttcctcgc catttaccat cccctcatcc 300
ccaccctggg gttagttttt aaaggcaaga tattactcag ctatattaag ctcacggaca 360
aactttggct tcttgngtgc tcatgtggac cctgcttttg ctttggggtt tatacctcaa 420
tggccttgac tgatcactta ccatccactc ctattaattt gtaggaggga agtttgcttt 480
ttttcctgng agtgcttggc aataacacag gttcctaaat gaatcactaa tctgaactgg 540
cattaaagaa aactgtcacc anggctnttt canatacatt tcaatgcnta tacaaaaact 600
ttttccaatt ggttgnggcc caaaataatt ttgcttccat cctcattaaa ancagcaccc 660
cggganaanc caaagtcatt tncctgaata ggcncaaact gagtgaaacc cnccggtg 718

<210> 192
<211> 724
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 192
nttgagggaa caagtagggg ggcttcagtg gtgatttccc ccttttctat cgatagaaat 60
ggccaaaatt tctaaaaaag gacaatggaa gccaaaaagt taagatatgt gatcatatga 120
agctgggtaa tgcaggaaaa cattaatttc aacggttcca aaaaaaggat tccaagccaa 180
agcttgcgta aaccagattt gacagtaaaa atagcacttc atgagaagag ttagaaatgt 240
agttttcata ggccatcagg acaataaccc gcgtaactgc ccgggcggcc gctcgaaagc 300
cgaattctgc agatatccat cacactggcg gccgctcgag catgcatcta gagggcccaa 360
ttcgccctat agtgagtcgt attacaattc actggccgtc gttttacaac gtcgtgactg 420
ggaaaaccct ggcgttaccc aacttaatcg ccttgcagca catccccctt tcgccagctg 480
gcgtaatagc gaagaggccc gcaccgatcg ccttcccaac agttgcgcag cctgaatggc 540
gaatggacgc gccctgtanc ggcgcattaa gcgcgggcgg gtgtggtggg taccccagc 600
gtgaccgttc acttgccagc gccttacgcc cgnttctttt ggtttctttc ccttnctttc 660
ttcgncacgt tcgcccgggt ttnccccgtna agctnttaaa tcgggggggct tccntttang 720
ggnc 724

<210> 193
<211> 717
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 193
tacacctatt ctaatcccct aatttatcaa caacacaaaa aagtgtctta cttgagagta 60
agagtatgtg tgaatgagtg ggtgtatgcg tgtgtgtatg catgtgtgtg tggaaataaa 120
cttataaatg ggggaagtat tggagaagga aatacatgga cttgcacctt ggagcaaata 180
gcagcaatgt tttaggagct gaaatttcag atttaaaggc ttcagcccca tctacttccc 240
tgtttttgtg gggagagaat ggagttgatt aaaactgctc tgttattgtt tttgggggag 300
gggaatactt tctgttcagt ctttcctagt gaccaaactt taagttttaa gagtaatata 360
ttgacttatt aaatggaagc attctgaatt ggagggctct ccagaggaat agagttctgt 420
gttgctcaca tgttaaaagt ttgctcgcct ttggagccga gggaaaacct attttcagac 480
atccgtccat tttcatctcg tcattattat caaacagtgt gacttgaaag tgttgctttg 540
ttgtctgtgt acctgcccgg gcggccgctc gaacccgaat tctgcagata tccatcacac 600
tggcgggccg ctcgancatg catctagagg gcccaattcg ccctatagtg agtcnnatta 660
caattcactg gnccgtcgtt ttacaaccgt cnngactggg gaaaaccccct ggcgttn 717

<210> 194

<211> 661
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 194
acaaantcnn atacctcgga atacacctga cnaaggaggt aaaggaccta tatgccgaga 60
actataaaac tttaatcaaa gaaatctaag aaaatgtaaa gaaatggaaa gatattccat 120
ggtcctggat tgggaaaatc aatattgtaa aaatggccat actacccaaa gcaatctaca 180
gattcaatgc aatccctatc aaattaccca tgacattttt cacagaacta gaacaaacaa 240
tccaaacatt tatatggaac cacaaaagac tcagaatcgc caaagcaatc ctgagaaaca 300
aaaaccaagc aggaggcatc actctcccag acttcaagaa atactacaaa gccacagtca 360
tcaaaacagt gtggtaactg cccgggcggc cgctcgaaag ccgaattctg cagatatcca 420
tcacactggc ggccgctcga gcatgcatct agagggccca attcgcccta tagtgagtcg 480
tattacaatt cactggccgt cgttttacaa cgtcgtgact gggaaaaccc tggcgttacc 540
caactttaat cgccttgcag cacatccccc tttcgccagc tggcgtnata gccgaagaag 600
cccgcaccga tcggcctttc caacaagttg cgcagctgaa tggcgaatgg acgccccctg 660
t 661

<210> 195
<211> 715
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 195
tnttttnctt tgnaatttgc ctgaagaatt ttaaatttta tgtagtcaat tttgtcaatt 60
ggtttttttct atggcttctt cactttgtat catggttaga aaagacttcc ttacttcang 120
gttgtagaan aagcttctgn tctcttctag tccttttact gccttatttt cacacataaa 180
tctttgatcc atttagaatt tatcctgatg taaagtgtgg gtctaacatt ttctccaggt 240
ggctatccag ttgttacaac acagtttttt gagtaatcta tctttccctg accaatttca 300
gataataccc ttttcatata ctaaatttcc atatgtattt gatttatttc ttggcttcct 360
gttctgttcc tctgagtttg ttttgntata tatgtgtcag tttttctaat tggcctttga 420
tttaattgaa cattagtatg attttgtttg cttttgttca gtgaataaca tgaataataa 480
acattttgca cttggaggca tattttgatt ctcaaggtan ggtgtgaata aagtcagagg 540
acagaactgc ccatgcctac ccttgctttg ctcantgnct agtctggttt catccttcan 600
gccagtattt cttaagngtg ttggaaaaat gcttaaaacc atttattagc tntgtaggcc 660
ccccanaaaa tancctgnac ctgccccggg cgggccgttc naaaacccaa ttcct 715

<210> 196
<211> 812
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 196
ttgattgccc nctctaaagc atgctcgagc ggccgccagt gtgatggata tctgcagaat 60
tcggctttcg agcggccgcc cgggcagtta cgcgggtatg gaggagttcc atttattctt 120
tccttgagca aatattttag aaaattgtca tgcaagatga aaagataggg aagaagagtc 180

aacattgtca agatgtcagt tcttcccaac ttgatctata gattcaagac aatcccaatc 240
aaaatcccag caagttgttt tatgttatgt tgtggactga caagctaatt ctgaagttta 300
tatggagaag caaaagacct atattagcca acacgatatt gaaggagaaa aataaagtca 360
gacaactaac actatccaac tttaagacct actatatagc aatagtaatc aaataactgt 420
gatagtggct aaaaaaaann anctttnaa annaaaagtc cttggccgng accacgctaa 480
gccgaattcc agcacactng cnggncgttt ctaagggatc cgacntcggn ccnaagcttn 540
ggngaannat tggncatanc tgnttcctgt ggngaaantg gtnatccggt canaattccc 600
ccacancatn caanncngaa acctttnang ngtnancccn gggggcctaa tggngggnnc 660
ttncttncat ttanatgngg tgnnccntan anngcccgnt ttcnnagcng gggaaaccct 720
ttngggccan nanganttta ttggaaatng ggnaaacccc cagggaanng cntntttnnt 780
tatttggggc cngttntnnc ntgttnnggn cc 812

<210> 197
<211> 782
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 197
aggacatgat acctatctca cgggttcttg tgaagatttg aacaagtgtg ttaggtataa 60
attaagcttt caataggnga caattattat ttatnggtat tttttatata taacaacagt 120
atctactgtt aanatcctgg agccagccac ataacacttg aaactcatgt tatanaaaac 180
agaaaaagaa agggaaaacc tanctgtagc ctaatttcgt atgatgtcat ctactgactt 240
nttcgtcacc gtaggatgga ntgggggcnc tgatatatat atatttttt tcttgacttt 300
tgnctttta gggccgcacc cagggcatat ggaggttccc aggctagggg ttgaatcaaa 360
nctgttgctg ccagcctaca ccacagccac agcaacatca gatccgagcc tcatntgtga 420
cctacaccac agcccacagc aacaccggat ccttaaccca ctgagaaagg ccagggatcc 480
ccgcgtactt gcccggncgg ccgttnaaaa gccnatttcc anccaantgn gggccgtnnc 540
nangggntcc aacntggnnc caacttgggg tnannanggc aaactggttc cctnggnaaa 600
ntngttccct tnnaattccc cnnannncna acccggaanc tttaagnnnn aaacctnggg 660
gggctnaatg ngggggccta ctnannntta ntggggtggc ctaatngccc nttttcaagt 720
nggaaaactt ntcgtgcccc nttgttttat gnaatnngca aaccccggga naaggnggtt 780
tc 782

<210> 198
<211> 721
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 198
ccatactgta tacttgaact ttgctaagat aaattaaatc tcaacataca cacagtggta 60
attgtgtaga gatgatggac aagttattag cttgattatg gatcttttca caatgtatga 120
atatatcaag tagaatgcat tgaatctata caatttttat atgtcaaagg tatctaaata 180
aatttgtatt ttaaaaaaga atataatttg agcgagaaat aacatgatga ttctagaatg 240
taatatagaa aaaaaagaaa aaacttaagt aggaatgaga agtaatttgg gaaggatacc 300
taagagtctt actcaacaca cacataggat ttgatgaatc tcaggaaaca ggttgaggaa 360
aacaaagcaa attgctaatg actacagggg atattactag ttttgaagga ctcaaaacaa 420
tcataactaa ataatatacc atttaggact atacatctat aataaaatac ttttttaaa 480
aaggggaacg ataggagttc ctgttgtggt gcagtagaaa caaatctgac caggaagcat 540
gaggttgtgg gttcgatccc tggcctcgct cagtgggttg gggatctggc attgccatga 600
gctataggtt gctgtaagtt gcagaccgtg gctcggatct gggtgttgct gtggctctgg 660
cntgggcttg gccggntaca gccctagcct gggaacctca tatgccacaa gtgccagncc 720

g 721

<210> 199
<211> 789
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 199
ttcccccagg atataactaa gaattgagtt gttgtttcca gatcatgcat tttgacttta 60
ctagataatg ctgaacagtc ttccaaaata ttctaccaat ttatacttct gccagctata 120
aaaaatatgc cttatatttc caaaccattg ccaaaatggt tgttgttatg ttgttatgaa 180
cttctagata tcagctctta aatgtttttt aatcttattg gtttggaata ggataccatt 240
atgttttagt ttgcatttcc catatgatta agagtgaaac atcttttcac atgtttactg 300
actatatgaa ttttccatta aaataataat ttttgacctt tcagtttcat attcataaca 360
aatttttatt atgaaaagca ttggtaatgt tgctgaaaac atttaagagt ttaatattta 420
ggaatattct ctggagttcc tgtcgtggtg cagcagaaac gaatccaact aggaaccatg 480
aggttgtggg ttctatccct ggcctctctc agtgggttaa ggatccggca ttgccgtgag 540
ctgtggtgta ngtcacagac gccgcttgga tctggcgttg ctgnggctct ggngaagcca 600
cactgtagct ctgaatagac ccctacctgg gacctcatat gctggagtgc ancctaaaaa 660
gaccnngacc naaaaaaaaa nnnnnnaaaa aggnccttct ttttnnnnnn ntttttggg 720
gtnaaaaacc gntttaaaac cntnannaaa angggtttga nanggaaaaa tttgggnttt 780
ttgcacttc 789

<210> 200
<211> 760
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 200
tttcnagggc cactccccgg catatggagg ttcccaggct aggggtcaaa taggagctgt 60
agcctccggc ctacgccana gccacagcaa cgtgggatca nagccgtgtn tgaaacctac 120
accacagntc atggcaacgc canatcctna acccactgag caagggcagg gatcgaaccc 180
gaaacctcat ggttcctagt tggatttgtt aaccactgca ccacgatggg aactccctca 240
actactttct tattggctcc ttttttgttg ccttttgtaa ggcncttgtt cttgctaatg 300
accatggttn tgaaagccaa aagtntntag tattatttta ttttgcaatt tatntaanca 360
atgcaaaatt nttcaacccc aatccgtaac ctctaaaaaa gaaaaccncc taaatgtttt 420
tagagtcctt taatacaggg ggtaaagaac cataattcca taaatttaac ttccaaagaa 480
aatttttaat taaaagtaat ttaagataga aaagatgctt tttgaggaaa tgataaagaa 540
tatggnaaca tgttactata gtcttaatgg tctgtaccct caaaattttt atgntgaatt 600
cttaaaacac aatgtgatgg tacctgccgg gcgggncgntn naaaccgaat tccagcacac 660
tggngggcgt tctagtggat ccnanctcgg naccaanctt ggcgtaatca tgggcataac 720
tggttccctg gngaaattgt ntcccntcac aattcccncn 760

<210> 201
<211> 774
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis

Porcine

<400> 201
tgtttttta gggacgcatc tgtggcacat ggaggttcct aggccagggg tctaatcgga 60
gttgttgctg cttgcctatg ccagagccac agcaacgcca gatctgagca gcatctgcga 120
cttacaccac ggctnacagc aatgccagag cttaacccac tgagcaaggc cagggatcga 180
acccgcaacc tcatggttcc tggtcggatt catttctgct gagccacaac aggaactcca 240
aaattttctt tataaggggt caattttaat caatttcata tccgtcatct ataatcctaa 300
ttttagttgn caattttcat agagaattaa actagaaaat tttacataaa ttctcacagc 360
ctagggaaac tgttattcca aaaatagttt taacaganag ttcctttggg gcacagcagg 420
ttaaggatct ggcattgtca ctgnaaagac ttgggttatg gctgtggcac aaagtttgat 480
ccctggcctg aaaacttccc atgacacngg agcggtcaaa aaaaacccca aaaaacagca 540
gtagcagata acgacagcaa aacaaagttg catgaaaaat gttgccaggg ttcanngga 600
attctaatct tttncacttt caatcaaact tttcccgaca ctggcattca ttaagctgat 660
nagatcttga cttcgctttt cccagaatac aagcccttgg gttncatttt accttttac 720
ctnagcaaaa cttatgacca accnttattt tcatccagcc ctnggggttn catn 774

<210> 202
<211> 778
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 202
gggctgctcc tgcggcatat ggaggttccc aggctagggg tcgaaccgga gctgtagcca 60
ccagcctaca ccanagcctn agcaacttcg ggatctgagc cgtgtctgtg acctacacca 120
cagctcacgg naacgccgga tccttaaccc actgagtaag gccagggatc gaacctgcaa 180
ccttggggnt cctagtcana ttcgttaacc actgnaccat gacgggaact ccctatgcag 240
ataactttan agtccccctc ccttgcaatt ctgggcctct ctgtgtccca aactnattca 300
aacnaatgga aatgttcata atgggttcct ccatctnaag tgacagatta aagggatgat 360
ggaggatgga antggtttgt cctgggtcac gtacctgccc gggcggccgc tcgagaattn 420
tggagatatc catcacactg gcggccgctn nagcntncca tntanagggc ccaattcgcc 480
ctatagtgag gtcgtnttnc aatttactgg ccgncgtttt acaaacgtcg nactgggaaa 540
accctnggcg gtcccaactt aattcgcctt gnannaaaat tcccctttng ncanctnggt 600
gtaatngccg aaaaaggccn ncaccgatcg gnctttccca anagtngngc aaccctnaaa 660
tggcnaatng acccccccctg tatcgggcat tnagccccgg gggttntggn gggttacccn 720
nancgnngac ccgttanatt tggcagggcc ntanggcccg ntcttttgtt ttttcccc 778

<210> 203
<211> 717
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 203
nttncggctt gttcttgcaa taccggtaac accgggcggg gcggcggccc atggcgacac 60
caagatcttc agtggcgcgc cgaaggaaaa gagccccgcg tacttttttt ttttttttt 120
ttttttnggt ctttttatgg ccacacccat ggcatatgga agtccccagg ctaagggtag 180
aatcagagct gtagtcgctg ggctacgcca gagcaacagc aacgccagat ccaagctgca 240
tctgcaacct ataccacagc tcatggcaac ttggatcctt ccactgcacg cccgcgtacc 300
tgcccgggcg gccgctcgaa agccgaattc tgcagatatc catcacactg gcggccgctc 360
gagcatgcat ntagagggcc caattcgccc tatagtgagt cgtattacaa ttcactggcc 420
gtcgttttac aacgtcgtga ctgggaaaac cctggcgtta cccaacttaa tcgccttgca 480

agcacatccc cctttcgcca gctggcgtaa tagcgaanag gcccgcaccg atcgcccttc 540
caacagttgc gcagcctgaa tggcgaatgg acgccccctg tagcggcgca ttaagcgcgg 600
cgggtgtggt ggttacncgc ancgtgaccg ttcacttgcc agcgccctac gcccgntcct 660
ttcgctttct tccttctttn ttgccacgtt cgncggnttt tccccgtaaa gctttaa 717

<210> 204
<211> 719
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 204
tcncgggggа ttttctctca aaatgatgct gtaataactt attttgttat ctacacaaaa 60
caaatacaca tgcttgtgaa cttttaaaac taaaaattct cttccactga tttccaattc 120
aatgaaaata attacttctg agattattta taattcactt taatttagaa tccatattaa 180
gaatcacaac cagagttccc atcatggcac agtggttaac gaatccaact aagaaccatg 240
aggttgcggg ttcgatccct gaccttgctc agtgggttaa ggatccagca ttgccgtgag 300
ctgtggtgta ggttgcagac tcagctcgga tcctgtgctg ctgtggctct ggcgtaggcc 360
cgtggctaca gctccaattg gacccctagc ctgggaacct ccatatgctg caggagcagc 420
ccgagaaatg gcaaaaaaaa aaaaaaaaaa aaaaaaagta cctgcccggg cggccgctcg 480
aaagccgaat tctgcagata tccatcacac tggcggccgc tcgagcatgc atctagaggg 540
cccaattcgc cctatagtga gtcgtattac aattcactgg ccgtcgtttt acaacgtcgt 600
gactgggaaa accctggcgt tacccaactt aatcgccttg cagcacatnc ccctttcgcc 660
agctggcgta atagcgaana agcccgaccg atcggccttc caacagttgc gcancctga 719

<210> 205
<211> 784
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 205
catgatccat cagatgactt gagtctgaaa atgccttgtg cttggagaag tgagcaggtg 60
gttaagaaga tgagagagag agagaagggg tggagaccca gatggaaaat caggtataag 120
aaagagcata tggactagga gttcccttca tggctcagtg gaaatgaatc tgactagcat 180
ccatgaggat gcaggttaga tccctggtct tgctcagtgg gttaagaatc tggcattgct 240
gtgagctgtg ggattggttg cagatgcagc ttggatctgg agttactgtg gctgtggtgt 300
aggctggcag ctatagctct gattcgaccc ctagcctggt aacctccata tgctgagtgt 360
ggccctaaaa aaaaaaaaaa aaaaaaaaaa aaaaagtacc tgcccgggcg gccgctcgaa 420
agccgaattc tgcagatatc catcacactg gcggccgntc gagcatgcat ctagagggcc 480
caattcgccc tatagtgagt cgtattacaa ttcactggcc cgtcgtttta caacgtcgtg 540
actgggaaaa ccctggcgtt cccacttaat cgccttgcac acatcccctt tcgccagctg 600
gcgtaatanc naaaaggccc gcaccgatcg cccttccaac attgcncacc tgaatggcna 660
atggcccccc ctgtaacggg ncatttaacc ncggcgggtg tggngggttc cccccacgtg 720
ncgttcnntt tgccagngcc ctacgcccgn tcctttngnt ttnttncctt ccttttgcc 780
acgc 784

<210> 206
<211> 730
<212> DNA
<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 206
tntttcngta ggccannaat ccaactgaaa tggcttgggt cactgtggag ttgcagcttc 60
aatctccagc ctggcacagt aggtgaaagg atttgtcgcg agttccaatt gtggctcaat 120
ctccagcctg gcacagtggg tgaaaggatt tgttgggagt tccaattgtg gctcagtggt 180
ggtaacaaac ccgattagta tccatgagga cgcaggtttg atccctggcc ttgctcagtg 240
ggttaagatc cagcggtgct gtgagctgtg gtataggtat cagatgcagc tcagatcctg 300
cattgctgtg gctgtggtat aggctggcag ctcagctctg attcagcccc taacctgggg 360
acacccatat gccatgagtg tggccctaaa aagaccaaaa aaaaaggatc tgacattgcc 420
atggctgtgg catangtcac agctgtgcct ccgattcaat ccttagcctg ggaacttcca 480
tatgccgagg gtgtggccaa aaaaaaaaaa tnttntnnna anaaaaaaaa gtacctgccc 540
gggcggccgc ttcgaaagcc gaattccaca cacttggcgg ccgtactagt ggatccganc 600
ttcggtccca agcnttggcn ntaatcatng gncatanctg nntccctgtg tgaaattgtt 660
atccgntnac aatttccnca caannntacta agccggaagc ttaaannngn naaccctggg 720
gggncntaan 730

<210> 207
<211> 726
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 207
tttgaanccc tttggaaant ccctttttn ggctttttc tagggccact tcccgcagca 60
tatggaggtt cccaggctag gggttgaatn ggagctgtag ccaccggcct acaccanagc 120
canngnaacc tacaccacag ctnacggnaa cnctgggtcc ttaacctact gagcgaggcc 180
agggatcgaa cccacaacct catggttcct antcggattc attaactact gngccacaac 240
gtgaactcct gcacattcat atttagaatg aagaccaaaa tggaaacaaa taccaagata 300
agaaaatttg ngaaatcatg ttgtttagan atagtttaac agttccagat ctagaagtcc 360
aaaatnaagg ancggcaggg ctatgntctc tctctgaagg acctcgggag gaatctgctc 420
catgcctttc ccttaacttt tggtatttgc ttgcaaccct tggtgttgct ggctttgtag 480
caagatagct ctantctctg cctctgnctt ncgtggctgt cttccttaag gtgtgtgtat 540
ctgggtctgc tncgcacatn ccccaacatt tttaccagtt aagtgtacct gcccgggcgg 600
ccgntttnaa acccnaattt tgnagatntn catcacactg ggnggncgtt ngaacttgca 660
tttannaggg cccaattcgc ctattgngan gttcgantta cnaattnntt ggccgtggtt 720
ttannn 726

<210> 208
<211> 804
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 208
tcaattattt gtctgattgg ttttacttac gtgttcaggc ttatctttaa gaagttgttt 60
tatcttgttt actgctgaag gtgtctgaaa aaagaaaatg ttttcattta caaacttcgc 120
attcttccta gtctttaagg ctgttcaaac ctatttttag ttagttcatg tgatgaattt 180
atgttccatt cttgcccggg tacctgcccg ggcggccgct cgaaagccga attccagcac 240
actggcggcc gttactagtg gatccgagct cggtaccaag cttggcgtaa tcatggtcat 300
agctgtttcc tgtgtgaaat tgttatccgc tcacaattcc acacaacata cgagccggaa 360

gcataaagtg taaagcctgg ggtgcctaat gagtgagcta actcacatta attgcgttgc 420
gctcactgcc cgctttccag tcgggaaacc tgtcgtgcca gctgcattaa tgaatcggcc 480
aacgcgcggg gagaggcggt ttgcgtattg ggcgctcttc cgcttnctcg ctcactgact 540
cnctgcgctc ggtcgttcgg ctgnggcgaa cggtatcagc tcactcaaan gcggnaatac 600
cggtattcac agaatcaggg gataacgcag gaaagaacat gtgagccaaa aggcnnccaa 660
anggcnngaa ccgtaaaaag gccncgttct tggcgttttt catagggtcn gccccctgac 720
agcntacaaa aatngacctc aatcaaaggg gngaaanccg ncggactnta anatccaggc 780
gtttccctgg aactcctntg gccc 804

<210> 209
<211> 793
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 209
cccgcagtaa gctttcaatt agaataatcc ctaatttcag gttcaagttc catgtatatn 60
cttaaaatga aaacacaagc cttaaacttn tagtcagaca cagatctgag tgttaccagc 120
actttctact ctccattctt tgagctttag gttttatgaa aacagttctt gctttttgaa 180
gcaatcntta ataaaatcac ctaattttct attcaaaagt aaancaaaac aaancaaaaa 240
aacccngcag caacaacaac aacaacgagg tccttgtacc tgcccgggcg gccgttcgaa 300
agccgaattc cacacactgg cggccgttct agggggatcc gaactnggtc caaagcttgg 360
cgtaatcatg ggcatagctt gnttcctgng gngaaattgg tatcccgntn naatttcccc 420
caacatncga acccgaaacn ttaagggtaa ancccctgggg ggcctaaatg agngaaccta 480
cttcncanta attggcgntg ngntnactgg cccntttca atctggaaaa cctgtcgtgc 540
cnacttngct taatgaatnc ggncaccccc cggggaaaag ccgnttngct atttgggccc 600
ttttcccttt ctnggttant tgaatncatt ggnctcgggc gttnggtttg ngnaaacggg 660
tttanttanc ntaaaggngg nntancggtt tttccnaaaa ttcgggggna accccggaaa 720
naaattttna ccanaaaggc ccccaaaagg gcccggnacc cntaaaaang gccctttntt 780
ngngtttttt cnn 793

<210> 210
<211> 721
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 210
tggcctccnt gagtattatt agatttgggg atttttgtaa ataaacaacg gaaaagaacg 60
gcagaactag gagaaaaata caaataaatg aagagtccac tacagaaaga gatgctacaa 120
taacaaatga atagccaaag aaggccaaag attcataaat actagctttc tcaagtaata 180
aatgagtgtc tgtaaggcac tggagttact actctagcaa tacagttttg ctacagaagg 240
ggataatgat cccaagtata tcacacacaa agagtttcta agataactct cccgcgtacc 300
tgcccgggcg gccgctcgaa agccgaattc cagcacactg gcggccgtta ctagtggatc 360
cgagctcggt accaagcttg gcgtaatcat ggtcatagct gtttcctgtg tgaaattgtt 420
atccgctcac aattccacac aacatacgag ccggaagcat aaagtgtaaa gcctggggtg 480
cctaatgagt gagctaactc acattaattg cgttgcgctc actgcccgct ttccagtcgg 540
gaaacctgtc gtgccagctg cattaatgaa tcggccaacg cgcggggaga ggcggtttgc 600
gtattgggcg ctcttccgct tctcgctcac tgactcgctg cgctcggcgt tccggcttgc 660
ggcgaaccgg tatcagctca ctcaaaaggc ggtaataccg ggtatcccca gaatcanggg 720
g 721

<210> 211

<211> 785
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 211
gggcctctct aatatgttca cctggtctaa accnaaaaat aaaataaagt aataagtttt 60
ttgntttctt aaaagaaaca gcatcccttc actgtcttct ttctctcttt acctctattc 120
atgccctgtt atgcccacgg ggagcaaaca actaatgtga taattagtta aaccnggaag 180
atactactta aggaaaacaa ttcctttaaa aaaggaagga aattcttccc taattctagc 240
ataatcaaag agtatactca aatgcntcta aaagtcagtc tatatgatnt ttgcatggnt 300
ttggngatta atatttagca aacccantat tatcttgcaa gatgatcaac agcanggana 360
tcaatcattc tacttgcatt taatgtnaat agaaataatg anaactttca gccactatga 420
ggtcctgccc gggcgggcgc tctaaagccg aattctgcng atatccatca cactgncggg 480
cgctcnagca tgcatctana gggccaattc gccctatagt gagtcgtatt acaattcact 540
ggccgcgttt tacaacgtcg tgactgggaa aaccctgnng ttacccaact taatcgcctt 600
gcagcacatt ccctttttca gctggcgtaa tancnaaaaa gcccccaccg atcgcncttt 660
ccaaaaagtt gcgcaccctg aatggngaat ggacccnccc tgtacgggca tttaaacccg 720
cgggtgtggn gggtancccc acgngaccgn tcacttgnca nggcctangc cccnttnttt 780
ttttt 785

<210> 212
<211> 807
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 212
tcaatnaatg aatctacata tttgctacca tcattctctt cctacatgca tgagagttca 60
aacctgaaca gcatgtttac agactttatc aattttatct tttcttttgc atttttttc 120
cctttcaaat gtcccagcct ctaatcaaat ctcagatcct gttgataagc tcagctaata 180
gtcccatatt ggtcattctc tctttgccta agccccatgc tagtatttta caaataatcc 240
acagaaaaat gaccaagaat ttgagtcata ggtatccaac atccatcagt ctttatggaa 300
tgtgtctaaa tggaccatag acagaccctc aaagacagga cagatgccac atagaagcca 360
tttgggggaa gatgaacaat gcaggtgaag aggcctggag agtgttcatt tccaccatnc 420
tccaacactc cctgagttcc tttttcatgt atagatcang nttcgtgnaa gttttcaaag 480
gaagtaaaat gntcattaaa caaaaaccaa aaactattac tttctacggg ctactaaatt 540
ggggggtgan aaagcncaag gggattattc ccatnaagat gtacttttaa taagnacccc 600
aggncatttg caggcaatgg cnccntgact ntccncttgc catttggcat tggcaaggng 660
catatttana nagggatgan nagaaaacna cngggtaaag ccnatcannt tttgaancan 720
cntnaaanct tcnaacnatg ggnatntttn anaaagacag nntttcnngc ntatnccttt 780
tatgggcttn aanatnccgg nntttng 807

<210> 213
<211> 522
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 213
ccgtgaggat agaacaaggg gtcacatctt gcctgccttc tgtatccctc tcctctttat 60
caagataatt aaaaactcct aattcctttt tgtaggttta ggcccacttc aataccagaa 120
aaatttattc tgaagcacaa gaaatcaacc agctcttatc ccacagtctc agcataattt 180
cttctaagtt tcatgcacag gcctgagatt gtgttttcaa tcatcctttt ttccccccct 240
ttttccaaat acttttcctg tatgccctct atgacacaag gctaatcttt gacttttctg 300
ctcctcctgt aaaccagaat cttgcttctg caactttatc caatgactgt aactttcttt 360
ttttagatgg accacactaa ttccacctac ctgtttggac ttgagggtat tgtttgctgt 420
ggatcccttc tggttttgnc ctgcccgggc ggncgctcga aagccgaatt ctgcanatat 480
ccatcacact ggcggcgctc gagcatgcat ntagagggcc ca 522

<210> 214
<211> 849
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 214
tccgtanaat acccttggg aaaatacccg cnaaggggca aagagagttc tgttcgtgaa 60
actttaaaga aaactcacgc ctggaaaata atcacaaata tnaggcaagc agaaaagaca 120
atgcgaaaat caaggaaaat ctaagaagta aacaagaagg aaaaaataca aacaaagcaa 180
attctgtccc aaagtccaaa ggaagcgggg agtgtcccct attttctatg agctgcatca 240
acaggttgtg ttcaccgctc tctccttccc ccaaacacac ttatatctct gcccccaaac 300
tcattcacat atagagccgt ccaaagtttg gactttaaac ctacttttt ttttttttc 360
ctttcatgct tacagttttt gcttctttcc ctttgctttt tactttagcc aaaaacatct 420
gttccaccac tgccttttcc tgtcagggat ggactcccac aggctagaaa ttgatctaag 480
gcttccanac tccctgtctc agctaaatct tccaaacatt ctttttctccc aggtgatttt 540
ttttttttt aatttctgac tccttctgtc tgatccttca atggatctta ctcccgaatc 600
ccagaagatg tttacaaggc tttaacaggt atatgtnann ntattaggng gaagctngtt 660
tttggntttn taaanannta aacagaantn taactnggta ccntngcccg gggnggccgg 720
tttnaaagtc cnaantnccn ncacacttgc ngnccgnttt taggggnatc ccnacttnng 780
tcncnnatct ttggggtnnt nnnnngtcan tanctngtcc tcnggngnna tnntgnnttn 840
cnntncaan 849

<210> 215
<211> 816
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 215
gnataaaanc ctgttcttag cctaatgagg tggggagaag ggcatgggac ctgggtgtgg 60
aatgaaaaag ccagaccatg gggatgaatt gcggaactac caaaagaatc agggctagaa 120
tttattatga aagaagatgg cagggatgga acagccctgg aaaagcaaag tagattttgt 180
tctatgctat cattttattt tattaaaaag ggtgcagcag ttcagtccat gggcttactg 240
gtttgaagaa gtatatggct catgttattt ctctgccttc cattgtcagc tgaatctaaa 300
tcagccaaga atggattttg gcatatggat ccctaaccca cataaggccc aggaactcac 360
tctttacatg aaagttgttg ttaaccctgt attgatacaa tccttttttat gagatggtaa 420
tgactgtaag tgcaactctt tcttaacaaa gctgtcttca gtttaaaagt ttgcaaggaa 480
gattatgggt gatgaggcaa gctattgtgt gaaactcagt tattttcaaa aatagaggga 540
ttaacataga gaattaccaa tgttgtaaga aaagactaaa atttatgtcc atggaatgga 600
tgaagaaagg gttaaaatgc ctataagttc atacagatat ttgaaagtna agaaagaaan 660
ggggagattt tgatgangga aaagccaaag gcntgaatgg aggaaaattt acatgcnggc 720

tgggacaccg aaaagaaagg gacatgggac aagtaaccat tccaaccatg ggcccttngg 780
gcctttctgg natctcggnt caggcctact aacatn 816

<210> 216
<211> 795
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 216
nnnccgctgc agttaagact atttttacat ttttttaatg ggttggaaaa aatcaaaagg 60
ataatgcttt gtgatacctg aaaactatat gaaatttaaa tttccctaat ttaaaacctt 120
aaagttttat tggaacacag cctctcactt atttgctcat acactgtcag tgtctgcttt 180
tatacgtgtt ggtagagttg agtcattgca acagagagca tatgcagccc tctcatcact 240
tcacactgct gtgtgatgct gctgtaaatt gtaatgatgc agttacaact taacaatgtt 300
tcaagtggca tctgtatgga caaagtgcaa catttatttt atntttatta ccagtgcatc 360
cttattatgt caatacnnat aaatcangng aaatttgact cttaatgtna catttgtnag 420
acacagtgga gtgtggaata ttttggtgnc aaaatagact gnnttccant ggatttatta 480
tgtaatgata tcngagntgn gcctaataag aaattttatt tatgacaaan atgctacttc 540
acttccgatc nnaanaaaat gnaacttctt gggatgaaaa aatntgaatt tggcctacct 600
nanactggcc tggccngggg ggcntttaaa gcccattcnn naacttgggg ggcgtctnat 660
ggntcccnct cnggnccaac tttggggaac ntgggnnaan tggtncnggg gnaaaggnnt 720
cccnncaaat tccccnaaat ttnancccgg nccttaangg gaaacccggg ggcccatagg 780
gggnnncncc atttn 795

<210> 217
<211> 816
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 217
atgaatnccc tttggnnttt ttttttgca gttacaagtt gaaaaccagg tataaacagt 60
attaggtaaa gtgactgaga aatttataag agatactgta gacaagtgaa aacctcaaaa 120
tcttcaccaa cattgatgga tacctaattg cttgaacaaa ttgttaatct aaaaaaagac 180
ttaaagcaca aaagcttgag ttgagtaaag tctatctttc tcaaaagaga aagttaaaaa 240
gattctctgc ttattatgtg gttaagaaaa aaattttaaa gctgaagaaa acactaggtc 300
aaaaatacat taaaaatggg ctacttggtg gaaggtaaga gaaaagtgat acctggttat 360
agtaaattaa cttctgaaaa gagaaattgt caagatattt tgcatagttt attctgngat 420
ctctatgtct gaattttcag taaattatac tgtttgtgaa tacttttgct atgagcacat 480
tcttataggg gaagttcaaa atggaaaatt aggaagggaa tcacatttgc attttgagat 540
gataactctg gttgagatag agagtaaatg gggataggct aaaattttgc aggtaggtgg 600
ccaattagga aagttgctct anaacctaga aaaagatgat ggngacctga attagggaag 660
gggcattttg attgngataa ccttgctttt ccnaaaagng gttcaaacag aattcccnga 720
cttgttagtg atggttgaaa tgaaattcnn ggcttnaaan ggggatttgt tttaaaccag 780
gtttctggtt taaggnccct tgggataaaa gggccn 816

<210> 218
<211> 780
<212> DNA
<213> Artificial Sequence

<220>

<223> Artificial sequence
Muscular steatosis
Porcine

<400> 218
accctgacca ttaacaagat gtatgatttc ctgccatttg gccagtgcct ccctttctct 60
gctcatattt agatatttgc ctttacagca ctcttaagtg tgtgctctcc ccactcccag 120
catcacccca aagggagcaa gactggagca agaggggctg gagtggtcac tggggccaga 180
tccangtggg tgcacactgg gatgatccca acacaccant cggccttcca gattacttcc 240
aatctgcccc agcaatggcc tcctccatcc tatactgatg tatgtagggc tgggtctgag 300
atgtctctgt ccccacaact gttcactgtc tttggcagca ncagccttca ccatagtgta 360
gagtggtgct gtggaacaag aggggctgga tcaggtgctg gggccatttt aaaaaccagc 420
aagangtcca gngtatgtct cagtctggtt cctntgcttg ntttagaagc atgcaancat 480
gtgcttgctc ttcataaata gtccaatttg ntacattccc ncacagtcca atggtcntta 540
aaccnnccaa gangactgtn ttctngagnn ggcccctagg gctggaatgc ccnatanggn 600
tgtaaagctg ntnaatccct ttggagatga tcntgagccc aantaanttn ccttcccttn 660
tgnatccntc taaggtatng ggtcntttcc ttgaactntn nnttcccnat tggctnnctt 720
tngcngaaat ttattactgg cntggtcant ttactccttc naattntttt ggcncattnc 780

<210> 219
<211> 804
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 219
ttgataaaga acaatttagt aatatgcatg aagatacttg caatgatttg ttcgtttatc 60
caagagataa ctactgagaa gctaccctat gccacaaact gggaatactc gatgactaac 120
atacagatca agctaaaagc ttctcatggt ccaaggaggt ggggagcaaa atgacctatg 180
gatgcatttg agaagacggg gcaccaagag ctgaggagag atcaggagga ctcagcagaa 240
gagttaccat gtaagagaag ggcagacagg cagcactagg aatgacaagg agaatttgga 300
atccaagaca tctggattcc agcttcagct ccatcacctc ttagctactt gtcctttggc 360
aagttactaa aattctctca gctttaatcc tttcttctgt aatatctacc ttgttgagtt 420
tgaatttttt ttttggtatt tccccaatac aaatttttt ctaatatata gcatggagac 480
ccaattacac atacatgtat atattctttt tcaaaaatcc cattatcatg ctcccgcgta 540
cctgcccggc cggccgctcg aaagccgaat tctgcagata tccatcacac tgggcgggcc 600
gttcgagcat gcatntanag ggcccaattc gccctatagt gaggtcgtat tacaattcac 660
tggncgncgg tttacaaccn tcgtgactgg gaaaaccccct ggcggttacc caacttaaat 720
cgccttgcag gacaatnccc cntttngncc aactgggggt aatagccnaa aaaggcccgn 780
cccgaanggc cctttnccaa aaag 804

<210> 220
<211> 767
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 220
cccttccaca gccaccaccc tgaagcaagt taacatcata tcttacctgg actcttactc 60
tagttttcta agnggtcttc ctagttctgg ggttctggcc ttgccccttc cactcttctc 120
aggctgcttt caacactact gacaccttga tcctattaaa acagaaatta gatcatagca 180
ttcttctcca caaaaccttc taatttttac ctgtcacatt cagagaaatt attatacatc 240
atttactatt aagtggggag gggggggtcc tgtaaagcac ttaatactca ttgagtgttt 300

actgggtatc agtctctgac ctacatactt tatatacatt aactcattaa ctcataagta 360
ttctaaggca tgccctatta ctatacccat tttatagttg aggaaactgc catacagaga 420
ggttaaataa ctcccccaag gacacacagc tagtgagagg tagaactgtg aaaggtanaa 480
ctgngcttcc actgcaggta gtgggccatg accgtctgna ctttcaccac cctgactagt 540
cagtaaggct tcttcttgac atacagggga anatgctcaa tagtatcccc atcatntgga 600
gggaccattn cnttacttaa ccaactcttt actaagtcat ctgacattcc cngaaattct 660
cacttagggc taatacattc atttattnaa caaatactac tgagtgnaat acccctggat 720
tccngaaacc canccagtga aaaaccnaaa atgggcccaa actttnn 767

<210> 221
<211> 781
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 221
ncttggggac tggtattttc ctctttggta ttctctgagc ctcctaggtt tgtggttggt 60
atctgtcatt atttattact attttttaa tgactgcacc cactgcaaat ggaagttccc 120
cggctagtca ttgaatccta gctgcatcgg atagttatgc cacagttgag gcagaaccag 180
atcctttaat ctactgtgct gggctggtga tcgaacctgc atctttgcag ccacctgatc 240
ccctgcagtt tgatttttaa cccactgtgc gacagtggaa acttctgtca ttaattttta 300
aaagttcttt tccattgtta cttcaagtat ttttttctgt tttatgtctt cttttcctga 360
ctgataatcc acccgcgtac ctgcccgggc ggccgctcga aagccgaatt ccagcacact 420
ggcggccgtt actagtggat ccgagctcgg taccaagctt ggcgtaatca tggcatagct 480
ggttcctgtg tgaaattggt atccgctcac aatttcacac aacatcgaac cggaacntaa 540
agtgtaagcc tggggtgcct aatgaagtga gctactcaca ttaattgcgt tgcgcttact 600
ggccgctttt cagtcnggaa anctgtcntg ccaactgcnt taatgaatcg gccaacgccc 660
cgggaaaagc ngnttgctan tgggcgcttt ttcgctttct tgttactgac tnctgggctn 720
ggcgttnggt tcggnancgg nttancttac tnaaanggcg ggaataccgg tntcccanaa 780
n 781

<210> 222
<211> 716
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 222
ttgngnntgg tntttcctct ttggtattct ctgagcctcc tangtttgtg gttggtatct 60
gtcattattt attactattn ttttaatgac tgcacccact gcaaatggaa gttccccggc 120
tagtcattga atcctagctg catcggatag ttatgccaca gttgaggcag aaccaagatc 180
ctttaatcta ctgtgctggg ctggtgatcg aacctgcatc tttgcagcca cctgatcccc 240
tgcagtttga tttttaaccc actgtgcgac agtggaaact tctgncatta atttttaaaa 300
gttcttttcc attggtactt caagtatttt tttctgnttt atgtcttctt ttcctgactg 360
ataaattcac ccgnngtacc ctgncccggc cngtcgntcg aaaagcccga attccnagca 420
cactggccgg gccggtccta gnggantccc agcnttggta ccnaagcttg gcggaatcnt 480
gggcattanc ctgngannen gtgntnaaaa tggnnatccg ctcaacaatt ncaccacaac 540
catncngaan cccggaaagc nttaaaatgt anaaggcctt ggggtngcct aaatgangtt 600
ganctaactt cacattnaat tgcggttgcg cctnaantng ccgctttttc aantcggnga 660
aaacctgtnt agnccagctt gganttaaat gaaattgggc caacgncccc ggggaa 716

<210> 223
<211> 783

<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 223
agaacngaag atatatgtgt gagtgcgtgg tcttgaggct actacattgg gcagtgggca 60
gtaggaggaa taaagcagaa aataaggttg aatagaggat aatttattgg tttagaatcc 120
tgtggctcag agttcaatgt cttagtaagg atgtccagtt ttggtcttaa cacaatatgg 180
atagctctct gaagcttgga tccaatgata cttctatatt tttagtagaa attatgaatc 240
ttccatggaa tggtattgag aaagtgatca gaaaacttag ggaaattaaa acatttagat 300
gaatttacta tgaaagaata gaaaacctgc tatttgatta tgttccttgg gagaacccag 360
aagacctgta ttcacaaaga tgataagaaa tgcantagtg agaggggcac tagcatccat 420
gataagctta gtggagatga cctctgcaga canagaaggc acgagatatt ccctgctgag 480
ctcactggta tcaanaggaa ttatanaatt ccncaatanc nnaaacacga tgcagcactt 540
aaatgcncga gttngaccnn aatggcgnag tctttttacc ccacaaattn tcgggnaana 600
ttggccnatt gatgatgatn cttcaagaaa caatgtgtat gtcctgcccc ggcgggcgct 660
ctaaaacccn attcncacac tggnggccgn tnctaatngg atcccactcg gnccaanttt 720
gnngnancat gggnataact gnttcctgtg gggaaaannt atccctccca tttcccccaa 780
can 783

<210> 224
<211> 654
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 224
ntttntacgt gccttgctat tactgtatgt cagattgcag gcttggtgtt agagacagac 60
gaccacagag gtcgcctgga gcttatagct gagcaggagc ttctaagaca gtaaatgtcc 120
agcttgtctt ctaaggaccc aaaatctgct tagggagaca gactcatcat cagtcatggt 180
tggtaatacc aggcaaagtc agataagtgc tgtaaagaaa ggaaagggag agcaaggcgg 240
tatgacaaag tggggagcaa gtnttaaaaa gtgtgatgat cttgcccaca ccaccatgga 300
accatggacg tagaactggg agtagaggaa gcagctncct gtgtctagga aataagtttt 360
acatggcata aaactcacaa gtagactcag ctaatgcatc aaacttttt ccagcacatt 420
tctagccgaa ggcataaggg atccganttg cagggaaacc cattgaagcc gaaattacag 480
ccctttcaac naactccagc nggaccccga gcnttttncc agttnggtca cctttccact 540
caccttgttt tatannggca nntccttgct tgactggggc cangggtttg tnggngangg 600
atgacctaan ggacttaatt nngtcctgaa anggnttntg aaatttaaat tccc 654

<210> 225
<211> 512
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 225
agcaaccttc cccacctcta caccttagct atctcgtata tacctgccta ctagggttaa 60
ctcaggagct ggctgttcga ttccactgtc atgtgcaacg tggacacatg agcttaacag 120
agaattgctt caccacaaaa gcagttggaa caaatgtatt ccttcactgc tgtagctggg 180

gacagatcca cagaggaaac aggtatgaca gaaatgggac aggccagtaa caattctgcc 240
ccaagcctcc ttggctcttg nctcttcaac ttgctttctt aggacaaaat cttttataaa 300
ggaaagccna gcanagagct ggaatcatca gtgtaccact cctttcacaa accactaaaa 360
ggaagtattg catcgccccc cggatactaa gaaagattca agtccaagtg gcanaaaatc 420
agggggatta aaaggaatgt gttactcata cancctattg gggctataat caatgnggaa 480
ttttaataaa tgctttcatt aattttnatt gt 512

<210> 226
<211> 794
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 226
acagcaacct tcccccacct ctacacctta gctatctcgt atatacctgc ctactagggg 60
ttaactcagg agctggctgt tcgattccac tgtcatgtgc aacgtggaca catgagctta 120
acagagaatt gcttcaccac aaaagcagtt ggaacaaatg tattccttca ctgctgtagc 180
tggggacaga tccacagagg aaacaggtat gacagaaatg ggacaggcca gtaacaattc 240
tgccccaagc ctccttggct cttgnctctt ccaacttgct ttcttaggac aaaatctttt 300
ataaaggaaa gccaagcaaa gagctggaat catcagtgta accactcctt ncacaaacca 360
ctaaaaggaa gtattgncat cgcccccgga tactaagaaa gattcaagtc caagtggcag 420
aaaatcaggg ggattaaaag gaatgtgttc actcatacag cctattggtg ctataatcaa 480
tgnggaatta taataaatag ctatcattta tttttattgg taanggacca tttttcttca 540
cacttatctt tggtcaactg gtaaggaaag ctcattaaag taaactcttg gaaactagag 600
atncntagaa ccaaccaatc acngcagtgt caagaaagcn ccaatgnatc tcctgctgaa 660
gtgatgtata cctaacatgg tttaccatgt tcccctaaca tacttcctgc ntggtttanc 720
actagtgggc ccaggcactg agtaactggc cnggccggcc ntnnaaaacc naattcancc 780
actggnnggn cgtn 794

<210> 227
<211> 715
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 227
nagaatagag tagactagat gtagaggtag ggtagatcag aaagttgata ttttataaga 60
tttaaattca gtatgcggaa aacctttttc tcctatgagc attttctaaa agccatctga 120
tttgacattc ttattagagc tgtaggcaga attgtgcaaa gacaaacgta aaaattaagt 180
ttttatttcc ctgtattagg aagttgaaat aaactgttat gaaaagtgtt tacttcgaag 240
tattggtgac caaggcttgc caataactga cggataaagc agcattctgt gtgtttaccc 300
taagtcatca gtttaggtca tttgaaagtt atcaacgtta taagtaagaa cttgaggaag 360
tagcaggaca agctgtttga aggacaacag agtatccttg gaaaagcagc cccacttggg 420
cttttcagct gtgtcaaaca tgaatctaaa tccccacaga gtacctgccc gggcgggcgc 480
tcgaaagccg aattccagca cactggcggc cgttactagt gggatccgag ctcggtccaa 540
gcttggcgta atcatggnca tagctgnttc ctgtgtgaaa ttggtatccg ctcacaattc 600
acacaacata cgagcccgga agcataaagn gtaaagcctg gggtgcctaa tgagtgagct 660
aactccatta attgcgttgc gctcactggc cgctttncan tcgggaaacc tgtcc 715

<210> 228
<211> 728
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 228
tttgtgtcca tacattgtcc tntaatttgg atgcgacttt gaacagaacg agatttctag 60
cttcatagag cttactttct aatagaatac gaagaccaca aataagtgaa aaatgatcat 120
gtaatttcca atcatattca taagcatgaa gataatacaa aagggcaaaa tatctaacaa 180
tgatggtggg gcaagttaaa taaggcagca agaagaagag atatatttga aatagaaaga 240
catctcagag ggggactatc taagcaaagt cctgacaaat gaagagcaat aagactggac 300
gaggaaataa aatacaaaga atagcacaca tagagtcttt gaagcatggg caaacttagt 360
atatctgaag aataacaaaa ttcactgttg ttagatatta gtaagaaaaa tcatggaaaa 420
gacagggaag aagggttgag ctagtcacat atgccttaca tcttcttggc tggaaagaaa 480
aatnaggcan gaacaaaaga gtcagtgagt tccaaaggag gttcattttg agcatgtcgt 540
cagagaaata ctcatggaaa tgtctttggg ctgagatgga agtnaggtaa gacagcaaac 600
ccttggaaat ccgggagaag tattgttcca ggaagtagga acagcaaaga ctctgagata 660
gattttnttt ttttaatggc attcaaggga gttcccaagg agattatttc canttgggag 720
tgaaannng 728

<210> 229
<211> 718
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 229
natacatatg caccaaccct aagatagaga acatctctgg aagcaggaaa tctccaccac 60
gtcccctcca gtccgtcctc tctccaaaga tgaccactat tctgccttct cttgtgagag 120
accaggttca cccctgacct tacagtttta aactcctaat ctggcgtgtt cctgaaggcc 180
cctctccctg gcggttcaca aactccaatc attatcttgt aaacctacta aacacgccac 240
tctgcttttc agaaactttg tgcttatatt tttagtctat tgacttaaac attccccccc 300
ttcactaaat tttctgagtg gaaatcagtc acttgcttga agctcttcaa agcttccacc 360
acctttttca gtttctctgt ctcccagcga gtcctcacaa tgggaagccg ggttttcatt 420
cttctgctca agtccagaat ccacaaataa ccccctggtt gaaaaagttc agctcatctc 480
tgaagttctc ctctctctgg agttttgtgg ccccaggcac gttcagatat ttataaattt 540
attctagatt catattagcc tgccggaggg cctcaagtta tcccatccca ctcagaatca 600
gaagttcang agtccccatt gtggtgcaat ggaaatgaat ccgactgata ttcatggagt 660
tgcgggtttg atccctgacc tngctcantg gggttaaagg atccangtgg nataacnn 718

<210> 230
<211> 720
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 230
cagtgttcgt atcctactgt agtggttgtg atgcttaaac tcattgtttt taggactaga 60
agtggcctcg gagagcactt aatctagcct ttctcatttt cacaagagag gaaattgggg 120
gccagcgtga tgaagtgatg tatacatttc acaaagtaaa tggcaaaccc agatgccctc 180
agtgcaggag tgtggcccta atgtctattg catgacgcct gtgtgttcag gtgctgtcca 240
gctgctgtct catttcatca tggtaatcac cctaccttta caagtgatga aattgaggct 300

cagaatatga atggcatcgt cccagccccg aagtgcagaa cactagtcag cctgactgtt 360
cattccacac ttcatctcct cttagctctt tgcctttgtt cccacaataa gaccaagtag 420
tagtatgtcc catcaagtga tggacttaga ttggtaaaag atatggttaa aaaaccccac 480
tgttttaaaa gtacctgccc gggcggccgc tcgaaagccg aattccagca cactggcggc 540
cgttactagt ggatccgagc tcggtaccaa gcttggcgta atcatggcat agctggttcc 600
tgtgtgaaat tggtatccgc tcacaattcc acacaacata cgacccggaa cattaaagtg 660
taaagcctgg ggtgcctaaa tgagtgagct aactcacatt aattgcgttg cgctcactgg 720

<210> 231
<211> 790
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 231
tcagactcct cacctgttag tatttttaat cttcatccct gttgaagatg ctggtgggtc 60
attcttggga caggaaatgt attccccata taggcagctt tgttagaaaa ttctaccagc 120
aagatgagcc cttcacttac agattaatta taccgacttt ttttttttct ctcactacac 180
cttctactta ttggaatcat aaagtccagg acagatcata aggtccaatc ataaaattgt 240
cctttaccag gacaattcgt catcacacat atgaagccgg atctcatggc cttcttgaaa 300
tttccattct ccaggttaaa caatctgcac ttctccttgt tctcttctgt gtttcgccca 360
ggacctttat tcactccctt tggttattac ctcagtgtat aattacatgt cgattagtgt 420
gcatttattt gattagcatg ggagttggcc atgctgctta tccaatattt ctggctcttg 480
gcctttccag catgaggcag gactacactt tcttcccggg tggttgaagt agaatggtga 540
gactagtttt ggccantgat gngtgcatgg aaatgatatc tgtcattccc aagccaaggc 600
atgtagctgc caaaaagaga tcttacaggg cttnctttтc cccagtagag agaccctgaa 660
gttcttagat gagggttgct ctgtccacct aggtcctgga tgaaggaaag aagaacccca 720
gcccaacaat tcctggataa tcattgcagc cctgaatgaa aaaanaanga ctttgnagtt 780
ttgagggcnc 790

<210> 232
<211> 788
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 232
acatgcctna acatactcag agaaaaaaag ggataaccat acatgggctt gcctcacttt 60
aaagtcatga tccctaacct cagtgagtcc ttaatggacc cagtaatcat attatatttc 120
cctagttatt ntattctccc acactcctgg acaactgctg atccattttc ctccgtcctc 180
aaacctgtag cacttacagc acatagcttt ctgatatagt agacattcag aagcagtcag 240
aagggaactt ctacagactg catctgtgtc cttgtaatct actgtcttct ataagagatg 300
aactttgtgc ctagctaaga ccaactcacc cacttatatg ctagtttcct ccttctcatt 360
gctctagcat ttctccactt ctgtatcatt ttttcccctc ttctagatca ttcccactag 420
cctataatat gttcttccat cgcaaaaaaa aaaaaaaaaa aaaaaagtcc tgcccgggcg 480
gccgntcgaa agccgaattc cagcacactg gcggccgtta ctagtggatc cgagctcggt 540
accaagcttg ggcgtaatca tggcatagct gtttcctgtg tgaaaattgt tatnccggtc 600
acaattccac acacatacga gccggaagcn taaagggtaa agcctggggg gcctaatgag 660
tgagctaact tcaaattaat nggcgtggcg cttactggcc ggttttccng tccgggaaac 720
ctgtcngggc cactgnatta angaaatcgg ccaacncccg gggaaaaggc ggtttgcgtt 780
ttgggccc 788

<210> 233

<211> 746
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 233
tttcactant actttattca ctctgagaat cctcagattc tgaatcatat tgattttctg 60
acaactgaat caaaaatagt ctaaaatttg ggaatttatg ctaacaagaa aacaagtgtg 120
aatattttat ttcaaagatg atctctggaa accctcacac aagagtcaga tttgacttgg 180
agaggggaa gaacatcagt aaacatgtat tactaagcac attactgctg gagataatgc 240
aagtttaatc ccaccccact agggacgtgg aaagccaaca tggatcacac tcctcagtca 300
tttcacccaa agaagccagg gtatttattt accaattctt gtctgtcatt ggttgggtag 360
tttggtttta attctacagc aattctgtct cggtatttgt atggacaaat tggttccagc 420
tgccagaaat atccttcagg caaagggatg cagctgctac cagctggaat ttcagccctg 480
tacctgcccg ggccggcccg ntcgaaaagc ccaattccag cacactggcc ggccgtacta 540
agtggatccc aactcggtcc aagcttggcg taatcatggg caatactggt ttctggggtg 600
aaattggtat tccggtcaca atttccccac aacttccgaa acccggaagc nttaaagtgt 660
aaaacccttg gggtgcccta atnaattaac ctacttccct ttaatttgcn tttgcgctta 720
nttggcccgg tttttcaant cgggaa 746

<210> 234
<211> 588
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 234
tttnaaatan ccntgcacct gctantactg tatgtcagat tgcaggcttg gtgttagaga 60
cagacgacca cagaggtcgc ctggagctta tagctgagca ggagcttcta agacagtaaa 120
tgtccagctt gtcttctaag gacccaaaat ctgcttaggg agacagactc atcatcagtc 180
atggttggta ataccaggca aagtcagata agtgctgtaa agaaaggaaa gggagagcaa 240
ggcggtatga caaagtgggg agcaagtctt aaaaagtgtg atgatcttgc ccacaccacc 300
atggaaccat ggacgtagaa ctgggagtag aggaagcagc tacctgtgtc taggaaataa 360
gttttacatg gcataaaact cacaagtaga ctcagctaat gcatcaaact tttttccagc 420
acatttctag ccgaaggcat aangatccga gttgcaggga aaccattgaa gccgaaatac 480
ngcccttaca acatacttca gnngagcccn ancattttag cangtaagtt caccttgcca 540
ctcacccngt tttatntggg cagcctttgc ttactggggg caangggt 588

<210> 235
<211> 726
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 235
ngcgggtagg agaacacaaa agagaaattt tggtcttctt gctgataaaa tgtgtagtag 60
ttcaagcagt ttctatttca aaagcaaaaa aaaaaaaatt ctcatgtttg aataataagt 120
ttgtcaagaa atcattctga ttaacagaac agaaagaatg aagataatgg acagaggaga 180
ggaaggagag cttcagaatg caagaaatct aatactgtaa aagagacagg tttctattaa 240

ctttgttata tctttaatca aaacccccta attgtgtgta atgcaagcca ggcaggtcag 300
ttggccaggg cagcaccgat tgaaagatag atggttttgc atgaggtgat ttcactttag 360
agattcagag cctagaaaag agagcagcat ttctgttctg tgcattgagt catgggcggg 420
tatgagagga tacccttca gtacctgccc gggcggccgc tcgaaagccg aattctgcag 480
atatccatca cactggcggc cgctcgagca tgcatctaga gggcccaatt cgccctatag 540
tgagtcgtat tacaattcac tggccgtcgt tttacaacgt cgtgactggg aaaaccctgc 600
gttcccaact taatcgcctt gcagcacatn ccccttcgc cagctggcgt aatagcnaaa 660
angccccgca cccgatcgcc cttccaacag ntgcgcancc tgaatggcga aatgggcccc 720
cccctn 726

<210> 236
<211> 739
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 236
tttgaanccc cttgggantt tnctcctgag agaatctgcc tggcttgctg ctganatctc 60
tgcttttggc tctgtgatgt cctattccat tgggttcctg atctttctta ctgcccaggc 120
ctctgcttcc ctaaggctgc cacatcctca ttgngttctc atcatcactt tgctgaacta 180
gagcaaaccc ttttcttcgn ggcttttatt tcactccatt acaatgacaa cactttggaa 240
attgccctga gcactcatta tctcacagtt attttaatga tctatttatt tatttcttat 300
taccagcttc tcanacttca tcacaggact ttggggataa ggagtggaag anaagccagg 360
acagaggatt acaggagcag ttaanatcca tggngtacct gcccgggcgg ccgntcnaaa 420
gccgaattcc agcacactgg cggccgttac tagtggatcc gagctcggta ccaagctttg 480
gcgtaatcat gggcatagct gttcctgngt gaaatgtatc cgttacaatt cccacaacat 540
tcgaacccga agcntaaaag gtnaaacctg gggngcctaa tgagtgagct aactcacatt 600
aattgcgttg cgctcactgn ccgtttccat cnggaaacct gtcgncccac tgcattaagn 660
attggncaac ccccgggaaa ggcggtttgc gtattgggcn cttttccctt cctggtnact 720
gactcnttgg nctnggccn 739

<210> 237
<211> 718
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 237
ttctgcctga tttattatta gatttgggga tttttgtaaa taaacaacgg aaaagaacgg 60
cagaactagg agaaaaatac aaataaatga agagtccact acagaaagag atgctacaat 120
aacaaatgaa tagccaaaga aggccaaaga ttcataaata ctagctttct caagtaataa 180
atgagtgtct gtaaggcact ggagttacta ctctagcaat acagttttgc tacagaaggg 240
gataatgatc ccaagtatat cacacacaaa gagtttctaa gataactctc ccgcgtacct 300
gcccgggcgg ccgctcgaaa gccgaattcc agcacactgg cggccgttac tagtggatcc 360
gagctcggta ccaagcttgg cgtaatcatg gtcatagctg tttcctgtgt gaaattgtta 420
tccgctcaca attccacaca acatacgagc cggaagcata aagtgtaaag cctggggtgc 480
ctaatgagtg agctaactca cattaattgc gttgcgctca ctgcccgctt tccagtcggg 540
aaacctgtcg tgccagctgc attaatgaat cggccaacgc gcggggagag gcggtttgcg 600
tattgggcgc tcttccgctt cctngctcac tgactcgctg cgctcgggcg ttcggntgcg 660
gnnaacggtt tcaagcttac tcaaangcgg naatacngnt atncacagaa tcagggga 718

<210> 238
<211> 716

<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 238
cgcgggtgag tggccttaca ggaaggctga tttagaattt ggcacatacc agacaactgt 60
tccatggaag caggttacct tcccttagat gactctggtt ttatttggtt tgcctccaga 120
agtcactgtt tcatatatat aaatgcgggt cttccctaaa taaaattcgg tcttctttca 180
gacataaaca ctttcaggtt taagaatagc tgtgtgctcc ctctgattta gaagaccttg 240
caaaaatggc tttggaccac agccttccag atataactgg cattttagaa gccctgatcc 300
cagcaggccc cggcaggatc caagagggca aaaagagagc cactggctga ctctggaact 360
tgctgggctg gtctacacct ctgtgctttg catatgctgt gttctctgct ggaaatgcac 420
tccccacttt ctccaatgaa tatcttccca tgacctgtgt ctctttcagg actcatccat 480
gtgcccactc ttctatgaag ccttcatcgc agggcctggt ctcttcatgt ccttctctct 540
cagatcccaa aatgacagac acttgtctca gaagctctac taggtgccag gaatcagtaa 600
atgtgggttg cttggcaggt ggttgatgga ccaagtgatc tgccangggg tctaccctga 660
cccttatttt ctctctagac tagacctcag tgtggatgtc tgtgacataa gtctga 716

<210> 239
<211> 675
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 239
cggcctcctc gcaggaactg acaggaacca tgcctcacca atacccagcc ctgaccccgg 60
agcagaagaa ggagctctct gacattgctc accgcatcgt ggctccgggc aagggcatcc 120
tggctgcaga tgagtccact gggagcattg ccaagcgact gcagtccatc ggcaccgaga 180
acaccgagga gaaccggcgc ttctaccgcc agctgctgct gactgccgac gaccgcgtga 240
atccctgcat tgggggcgtc atcctcttcc acgagacgct ctaccagaaa gccgatgatg 300
ggcgtccctt cccccaagtt atcaaagcca agggcggtgt tgtgggcatc aaggtggaca 360
agggtgtggt acctgcccgg gcggccgctc gaaagccgaa ttctgcagat atccatcaca 420
ctggcggccg ctcgagcatg catctagagg gcccaattcg ccctatagtg agtcgtatta 480
caattcactg gccgtcgttt tacaacgtcg tgactgggaa aaccctggcg ttacccaact 540
taatcgcctt gcagcacatc ccccttcgc agcttggcgt aatagcgaan aagcccgacc 600
gatcggcctt ccaacagttg cgcacctgaa tggcgaatgg acccccctgt ancggcgcat 660
taagcgcggc cgggt 675

<210> 240
<211> 813
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 240
taaagaagga tgactgactt tgccaagtgg cgctgtgtgc tgaagatcgg ggagcacacc 60
ccctcctccc tcgccatcat ggaaaacgcc aacgtcctgg cgcgttatgc cagcatctgc 120
cagcagaatg gcattgtgcc catcgtggag cccgagatcc tccccgatgg ggaccatgac 180
ttgaaacgct gtcagtatgt aaccgagaag gtgctggctg ctgtctacaa ggctctgagc 240

gaccaccaca tctacctgga aggcaccttg ctgaagccca tatatggtaac cccaggccac 300
gcctgcaccc agaaatattc tcacgaggag attgccatgg caactgtcac ggcgctgcgc 360
cgcacagtgc cccccgctgt ccctgggatc accttcctct ccggaggcca gagcgaggag 420
gaggcctcca tcaacctcaa cgccatcaac aagtgccccc tgctgaaccg tgggccctga 480
ccttctctta tggccgagcc ctgcangcct cggcctgaag gcctggggcg gaaagaagga 540
aaacctgaag gccgccagga agaatatgtc aagcgagccc tggcaacagc cttgctgcca 600
aggaaagtac ctgccggcgg ccgntcgaaa gccgaattct gcagatatnc atcacactgg 660
cggccgttcg agcatgcatc taganggccc aattcgccct atagtgagtc gattacaatt 720
cactggccgt cgtttacaac gtctgactgg gaaaaccctg cgttacccaa cttaatcgct 780
tggaagacaa tccccttttng ccagttgggg taa 813

<210> 241
<211> 801
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 241
tgtggccctg gacactaaag gacctgagat ccgaaccggg ctcatcaagg gcagcggcac 60
tgctgaggtg gagctcaaga aaggagccac gctcaagatc accctggata atgcctacat 120
ggaaaagtgt gacgagaatg tcctgtggct ggactataag aacatctgca aggtggtgga 180
tgtgggcagc aaggtctacg tggatgatgg acttatttct ttgctggtga agcagaaagg 240
tcctgacttc ctggtgacgg aggtggagaa cggcggcttc ctgggcagca agaaaggtgt 300
gaaccttcct ggagctgctg tggacctgcc tgccgtgtcc gagaaggaca tccaggatct 360
gaagtttggg gtggagcagg acgtggatat ggtgttcgca tctttcatcc gtaaggcggc 420
cgacgtncat gaagtcagga aggtcctggg agagaaagga aagacctcag gatatcagca 480
aaatcgagaa tcncaaggag ttcggagatt tgatgagatc ctaaaaccac catggttcat 540
ggngctctgg ngatctaggc nttgaaattc ctgcaaaaaa ggtcttcctt ccnanaaaat 600
gatnattggg ccggggcaac cnaacttggg aaacctgtct tttggccccn caaatnntgg 660
anancttgat caaaaacccc gtcccacccn ggcttaaggc natgatttgg ccatccanct 720
tggatnggac ttnctggnnt atgcttnntg gaaaaacggc caaaggggnc tccccctnga 780
ggttgttcca atgcanancc c 801

<210> 242
<211> 820
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 242
tatagaagtc ttccttgccc agaagatgat gattgggcgg tgcaacccga gctgggaagc 60
ctgtcatctg tgccacgcag atgctggaga gcatgatcaa gaagccccgt cccacccggg 120
ctgagggcag tgatgtggcc aatgcagtct tggatggagc tgactgcatc atgctgtctg 180
gagagacggc caaaggggac taccccctgg aggctgttcg catgcagcac ctgatagctc 240
gtgaggctga ggcagccatg ttccaccgca agctgtttga agaacttgtg cgagcctcca 300
gtcactccac agacctcatg gaanccatgg ccatgggcag cgtggaggct tcttataagn 360
gtttancggc agntttgata gttctgacgg agtctggcag gtccgcacat caggtggnta 420
ggtncataca tccataccat agaaaccagn tcatgtgtac ctgcccggcg gccgntnnaa 480
accgaattcc agcacactgg gggccgttac tagnggatcc gagctcggtc caatcttggc 540
gtaatcatgg catagctgtt cctgtgtgaa attgtatccg ctcacaattc acacaacata 600
cganccggaa gcataaaagt gtaaancctg gggtgcctaa tgagtgacta actcacatta 660
attgcgttgc gctcacttgn ccgttttcaa ttgggaaacc ttgtngtgcc nacttgnatt 720
aatgaattcg gccaaccccc cgggaaaagc ggttgcnttt tgggcgcttt tccgcttnct 780

nnntnaattg aatnnntgnn cttnggnnnt tcggttgggg 820

<210> 243
<211> 482
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 243
tgctcactgg caatttctct ggagctttgg catgcttgat ttcaatggca tctgctctca 60
agtcatagcc tttctgcttg gcctcatccc agtctttctg gtagagttta ttgctgattt 120
gcatggcatt gatgtgggcc tgcagtatga gtggcgtgtc agaaggaagg cttatgtttg 180
ttttatcttt attccaggct tcttgatata gtttctcact catctgcaga gaattggcct 240
ttgccaggac aacctctggc gtgtcgacga cggaagtgaa tttcaaggct tctgggcgtg 300
tcctgtagcc gtccttcatt caccaggtct tgagcattct tcaccctgtt catttctaca 360
gagccttcag gcatccagcc gatgccacgc agccactcca ggtctgtttt gtacctgccc 420
gggcggccgc tcgaaagccg aattccagca cactggcggc cgttactagt ggatccgagc 480
tc 482

<210> 244
<211> 394
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 244
tgctcactgg caatttctct ggagctttgg catgcttgat ttcaatggca tctgctctca 60
agtcatagcc tttctgcttg gcctcatccc agtctttctg gtagagttta ttgctgattt 120
gcatggcatt gatgtgggcc tgcagtatga gtggcgtgtc agaaggaagg cttatgtttg 180
ttttatcttt attccaggct tcttgatata gtttctcact catctgcaga gaattggcct 240
ttgccaggac aacctctggc gtgtcgacga cggaagtgaa tttcaaggct tctgggcgtg 300
tcctgtagcc gtccttcatt caccaggtct tgagcattct tcaccctgtt catttctaca 360
gagccttcag gcatccagcc gatgccacgc agcc 394

<210> 245
<211> 835
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 245
tgnaanccct tggaantncc agctttttat gcttnatttc ccggcatctg ctctcaagtc 60
atagccttct gcttggcctc atccnagtct ttctggtaga gtntattgct gatttgcatg 120
gcattgattg tggcctgcag tntgagtggc gtgtcaaaaa ggaaggctta tgtttgntnt 180
atctttattc caggcttctt gatatagttn ctcacttcat ctgcanaaga attggccttt 240
gccaggacaa cctntggcgt tgtcngaccn acggaagtga aatttcaagg gcttctggnc 300
gtgtcctgca ncgnccttaa tttcaccagg tcttgancat tctttnaccc ntgccaattn 360
ctacagagcc ttnangcatn cagccnntnc cacggcagcc acttcaagnc atgttttgga 420
ccttgccctg ggcggccgtt cnaaaagccc naattccagn nacaacttgc cgcccggtnc 480

ttagnggaat ccnaaccttc ggtnccaaac tttgcngtaa nncatgggcc antagcttga 540
tnccntnngt nnaaaaatng gnnatcccnt tnancantnc ccnancaaga ttctaaccng 600
gaanctntaa tgngntaaac cttgggntnc cnnaattnat nnaanctnan ctnaacnttn 660
aattnngagn tgnnnctaan ttgccnnttc tcaatntngg gaaaaccttt nnngnnnccc 720
ncttncntaa tggaaattng ncncaacccc cngngaanaa ngncngtttn nactattngg 780
ccnnnttttt ccnnctccnt ntgtacnntn aatantntnt acttttngat tttct 835

<210> 246
<211> 800
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 246
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gatctgtatg tggatcatag cattcaactg ttcgaagaca ttcctcccgg ttatagccac 120
ctgcagctat gagtttgcca ttcatctctg ctgtccccag accagatcgt gcatactgca 180
taggagacat gggcttttct attagctcat ctggttgcat ctcaaagctt aaacttttag 240
tgagttttgg agtgcttgtt ggtgagcttt gtgggctgtt tcgcccatga aggaaaatga 300
cacagaatat accatccagc acagccaggc acaagtaagt gttatttgag gcttttccga 360
agcaacgatt ttccactcat gcttagggct ttgncctgcc cgggcggccg ttcgaaagcc 420
gaattctgca gatatccatc acactggcgg ccgttcnanc atgcatctan agggcccaat 480
tcccctatag ngagtcgtnt acaattcact gccgcgttta caacgtcntg actgggaaaa 540
ccctggcgtt cccacttaat cgccttgcag nanatccccc tttcgccagc tggcgtaata 600
ncnaaaaggc ccgnccgatc gcccttccaa cagttgcnca ccctgaatgg caaatggacc 660
ccccctgtac ggccattaaa ccncggnggn tgtgggggta ccccccaggg gacccgntac 720
attgcaagnc ttancccgt tctttcnttt tttccttcct ttttncannt tcncggnttt 780
cccgnaaact ttaaatgggg 800

<210> 247
<211> 823
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 247
nntgcccttc ganatcgggc tctcggtgtt ctatgggagc aagaaaggac cagtgatctg 60
tatgtggatc atagcattca actgttcgaa gacattcctc ccggttatag ccacctgcag 120
ctatgagttt gccattcatc tctgctgtcc ccagaccaga tcgtgcatac tgcataggag 180
acatgggctt ttctattagc tcatctggtt gcatctcaaa gcttaaactt ttagtgagtt 240
ttggagtgct tgttggtgag ctttgtgggc tgtttcgccc atgaaggaaa atgacacaga 300
atataccatc cagcacagcc aggcacaagt aagtgttatt tgaggtcttt tccgaagcaa 360
cgattttcca ctcatgctta gggctttgta cctgcccggg cggccgctcg aaagccgaat 420
tctgcagata tccatcacac tggcggccgc tcgagcatgc atctagaggg cccaattcgc 480
cctatagtga gtcgtattac aattcactgg ccgtcgtttt acaacgtcgt gactgggaaa 540
accctggcgt tacccaactt aatcgccttg cagcacatcc ccctttcgcc agctggcgta 600
atagcgaaga ggcccgcacc gatcgccttc ccaacagttg cgcagcctga atggcgaatg 660
gacgcgccct gtagcggcgc attaaagcgc cggcgggtgt ggnggttacc cgcancgtga 720
ccgntacant ttgcaagcgg cctaacgccc ggtcctttcg tttcttnnct tcctttctng 780
ccacggtngc cgnttttccc cntnaagctt ttaaatcggg ggg 823

<210> 248
<211> 793

<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 248
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agccgtggga gtgggatcaa gtccctccac atcgacattc tcttctttag ggcctggttc 120
cccaacaagt ggcactgtca ccgaatggta ggtgattatg ggcccagggc acttgcgctt 180
cttatggacc tgcttctttt tgtcagcctc gagccgctca taggtctcca gtgaacgtaa 240
gttgagctct tctgtgatct tagcctccct gagcagctcc tcctgggtca gtggccgctc 300
acagtggggc ccctttcgcc gccgtgactg accctgccgc tcttgtacct gcccgggcgg 360
ccgtcgaaag ccgaattctg cagatatcca tacactggcg gccgtcgagc atgcatctag 420
aagggcccaa ttcgccctat agtgagtcga ttacaattca ctggccgcgt ttacacgtcg 480
tgactgggga aacctggcgt acccacttaa tcgcntggaa gacatcccct tttcgcaact 540
ggcgtatacc naaaagcccg accgatgccn tccnacagtt gccanctaat gncaatggac 600
ccccccttgta ccgngcatta accccgcggt ttgggggtac ccccanntna accgttannt 660
tgcaaaggnc ttangccggt tcctttnttt tnttcccttc ttttttgnca cgttgccggn 720
tttcccggta aacttttaaa tnggggctcc ctttaggggt ccaaattaag ggcttacggg 780
gnccttaacc cnt 793

<210> 249
<211> 796
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 249
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aagaagtgga agccctgatg gcaggtcaag aagactccaa tggccgcatc aactatgaag 120
cctttgtcaa gcacatcatg tctatctaaa tagagctctc aagatcaagt actgcgttaa 180
gaagactgac tggaacctta ttttaataat acccatgact aactgtccaa atctgtttac 240
caccattcag gaaaacaaaa caacttggac cattctggac taagggactc cctgagtttt 300
tatacactgn ttccctctga attatattca taccacacaa accaagtgtc tgctgctcta 360
gacaagaagg ataaaatact gacaatctca aatccaagca ccactcttta ttttctacag 420
tgggtcaaaa aaatccttaa aataataaat caataaataa ttttggcagt ctgtcagtac 480
ctgccnggcg ggcgctcgag aattncagcc actggcggcc gttactagtg gatccgactc 540
ggnaccaagc ttggcgtaat catnggcata gctggttcct gtgtgaaaat ggtatncgct 600
cacaattccc acaacatacg aaccggaacn ttaagtgtaa acctggggtg cctaatgagt 660
gactactcca ttaatgcgtg cgctnactgc cgttttcagt cnggaaacct gtcgtgccac 720
tgcnttatga atcggccacc cccgggaaag cggtttgcga ttgggccttt ttcgcttctt 780
gttantgaat nntggg 796

<210> 250
<211> 675
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 250

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aactaagagg gaaaacaagt gaacaaagct cttttctggt gactaggtgg gtggctctga 120
aaagagcctt ttggagtcaa gcggcacggc gactcgagcg agcgccacgt cccggcaggg 180
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cgcgcggnga aaaggcggtt tgcgtattgg gcgctcttcc gcttcctcgc tcactgactc 540
gctgcgctcg gtcgttcggc tgcggnnagc ggtatcagct cactcaaagg cggtaatacg 600
ggtatcacag aatcaggggg ataacccagg aaagaacatg tgancaaaag gccagcaaaa 660
ggccaggaac cgtaa 675

<210> 251
<211> 819
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 251
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tcttcgtagg atttgcacca ggtgaagtga gaggcatccg tcatctcctg gcagtcaaag 120
ctcaagtnga tgttgccctc ctcgtctacc cccgcactga tctccttcgt gcctggcctg 180
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gccctgacgc ggaagacata ggtttttcct tggtgcaggt cacagacctt taagtaacga 300
tttgcagtgg caacttcatt gacggtgttc cactctccag aatcctcctc cttaaaatcc 360
acaaagtagc cagagacagg gctgctaccg gaatacacag gagctttcca gagcaagacc 420
agggacgtgt cccggacctc acagaacgtc aggtcgtagg caggacctgg ctcaggcgct 480
gtccaggcct acacttgaag agctcactgg gatccgacgg cagcccgatc cccaccaggt 540
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tcctctcttt gagaagtgaa gagttgactt cgtgccagtt tttgtggtgg ccttccgctt 660
gtccacgtan tacctgcccg gcgggcgntc naagccgaat tctgcanata tccatnacac 720
tggcggccgt tgaacatgca tntaaanggc ccaatngncc tatagtgagc cgattacaat 780
tnctgggccg ngtttacaac gtcgtgaatg ggaaaaccn 819

<210> 252
<211> 817
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 252
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gtagatgttg ccctcctcgt ctacccccgc actgatctcc ttcgtgcctg gcctggcctc 180
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gtagccagag acagggctgc taccggaata cacaggagct ttccagagca agaccaggga 420
cgtgtcccgg acctcacaga acgtcaggtc gtaggcagga cctggctcan gcgctgtcca 480
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gcagcaattt tgaattcata cgtcgagcct tctgtcaagc cctcaccgtg aggatcctct 600
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gtagtacctg ccggcggncg ttcnaaccga attctgcaat atccatacac tggcgggcgt 720
tnagcatgca tntanagggc caatttgccc tatagngagt cgattacaat tcactggccg 780
cgntttacaa cgtcngaatg ggaaaaacct ggcgtnt 817

<210> 253
<211> 820
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 253
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ctcaagtaga tgttgccctc ctcgtctacc cccgcactga tctccttcgt gcctggcctg 180
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tcctctcttt gagangtgaa gagttgactt cgtgccagtt tttgtggtgg cctnccgctt 660
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gcggncgntn gaacatgcat ntaganggnc caattcgccc tatagtgagt cgattacaat 780
tnatgggccn cgtttacaac gtctgactgg gaaaacctgc 820

<210> 254
<211> 825
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 254
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gtagatgttg ccctcctcgt ctacccccgc actgatctcc ttcgtgcctg gcctggcctc 180
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ggcgntcgag ctgcatctag agggcccatt cgcctatagt gagtcgtatt tacaattcac 780
tggccgtcgt ttacaacgtc gtgactggga aaaacctggc gttnt 825

<210> 255
<211> 815
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 255
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ggatttgcac caggtgaagt gagaggcatc cgtcatctcc tggcagtcaa agctcaagta 120
gatgttgccc tcctcgtcta cccccgcact gatctccttc gtgcctggcc tggcctccac 180
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ggcaacttca ttgacggtgt tccactctcc agaatcctcc tccttaaaat ccacaaagta 360
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gtcccggacc tcacagaacg tcaggtcgta ggcaggacct ggctcaggcg ctgtccaggc 480
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aattttgaat catacgtcga gccttntgtc aagccttca ccgtgaggat cctctctttg 600
agaggtgaag agtgacttcg tgccaatttt tgtggtggcc ttccgcttgt cacgtagtac 660
ctgccgggcg gccgttcgaa acccaattct gnagatatnc atcaactggc ggncgttgaa 720
ctgcattcta nagggccaat tcgncctata gngagtcnta ttacnattca tggccgtngt 780
tttacacgtc nngactgggg aaaacctggc gttnt 815

<210> 256
<211> 813
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 256
tacacacagc cccctccccg gcatccccca gggccacaga ggaacctctg tcaggtagga 60
aagcagagtc ccaggccccg cgctggaggg gtaagcagat ggtcttctgt ttataccaac 120
agctttgctt ccttaaagtc tggcatttac agctggaggc acagggccca tccacttctc 180
gcccagcagg tgtgccagca gctccatccg gtcagagcca aagagcatgt gtgttttgtc 240
atccaggtgg gccacagtga tgggcagccc aaaggcccca tatttgcagg ccgcctcagt 300
ggtctccttg agctggttct tcacctctgg tgttgagacc ctttccagga gtcctcgggc 360
ctgtcctgtg gacatgccgg ccttctctgc tgcggccagg atgctctggg gctctgtgat 420
gtcttcgtcc cgtgaccaga cgcgcatcca cagttccctg gacactttct ccagcatctc 480
ggggtgctcc agtttcacgg tggtgaggaa gcgcatggct gtcaaacttc ttttcaagga 540
tcgcagagaa gaaatcttgg ggaagtggat gggaacctgg agatggngtc cagtccttaa 600
tgncctcttt catgtacctg cccggggccg ntcgaaagcc gaattctgca natatccatc 660
acactggcgg ncgntcgaac atgcatctan agggcccaat tcncctatag tgagcgnatt 720
acaattcatg gccgnngntt tacaacgnnn ngactgggaa aacctggngt tacccnactt 780
aatcgccttn nannacatcc cttttncant ggg 813

<210> 257
<211> 600
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 257
tgcgangtcc tccgcggcct ccagcttgcg cagctcgatg aggccgtcgc ccgcagtggc 60
cagcgagttg gcgatcagct ccgccgcctt gaagtcgccc tcggcggaga tgatggctgc 120
cttcttctgc tgctcagcct tttccaccac aaatctggcc ctctctgctt cctgctgagc 180

cacctgtttg gcttccaccg cttctgtgaa ctccttgccg aaggtcagat gcgtcagaga 240
cacgtcatcc aggatgagcc caaaggtggc tgctcgctcc gtgaggtcat cgctcacctg 300
tctggagacc agctctctct gggtgatcag ttctccagcg tcaaagacct gcccgggcgg 360
ccgctcgagc atgcatctag agggcccaat tcgccctata gtgagtcgta ttacaattca 420
ctggccgtcg ttttacaacg tcgtgactgg gaaaaccctg gcgttaccca acttaatcgc 480
ttgcacacat tccccttttcg cagctggcgt aatagcgaag aggccgcacc gatcgccttt 540
ccaacagttg ccacctgaat ggcaatggac ccccctgtaa cggngcatta accccgcggt 600

<210> 258
<211> 674
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 258
ncgcgatgtc ctccgcggcc tccagcttgc gcagctcgat gaggcccgtc gcccgcagtg 60
gccagcgagt tggcgatcag ctccgccgcc ttgaagtcgc cctcggcgga gatgatggct 120
gccttcttct gctgctcagc cttttccacc acaaatctgg ccctctctgc ttcctgctga 180
gccacctgtt tggcttccac cgcttctgtg aactccttgc cgaaggtcag atgcgtcaga 240
gacacgtcat ccaggatgag cccaaaggtg gctgctcgct ccgtgaggtc atcgctcacc 300
tgtctggaga ccagctctct ctgggtgatc aagttctcca gcgtcaaaga cctgcccggg 360
cggccgctcg agcatgcatc tagagggccc aattcgccct atagtgagtc gtattacaat 420
tcactggccg tcgttttaca acgtcgtgac tgggaaaacc ctggcgttac ccaacttaat 480
cgccttgcac acatcccctt tcgcagctgg cgtaatagcg aagagcccgc accgatcgcc 540
ttccaacagt tgcgcagcct gaatggcgaa tggacgcgcc ctgtagcggc gcattaagcg 600
cggcgggtgt ggtggntacg cgcagcgtga ccgttcactt gcaacgccct aacgccccgt 660
tcctttcgct ttct 674

<210> 259
<211> 818
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 259
ganatgcctc gaccgtgctg agcaggcgga gctgacaaga agcaggctga agaccgctgc 60
aagcagctgg aggaggagca gcaggccctc cagaagaagc tgaaagggac ggaggatgag 120
gtggaaaagt attccgaatc agtgaaggat gcccaggaga aactggagca ggctgaaaag 180
aaggccaccg acgccgaggc agatgtggcc tccctgaacc gccgcattca gctagtagag 240
gaggagctgg accgggcgca ggagcgtctg gccacagccc tgcaaaagct ggaggaggcc 300
gagaaggcag ctgatgagag tgaaagagga atgaaggtca ttgaaaaccg agccatgaag 360
gatgaggaaa agatggagct gcaggagatg cagctgaagg aagccaagca catcgctgag 420
gattcagacc gcaaatatga ggaggtggcc aggaagctgg tgatcctgga aggagagctg 480
gagcgctcag aagagagagc tgangtggct ganagtaaat gtggggacct agaggaggag 540
ctgaaaattg ttccaacaac ttgaaatcct ggaagcccaa gcggacaagt attccccaaa 600
gaggattaat atgaagagga gatcaaactg ctggaagaaa aactaaagga ggctgaaccc 660
gancagagtt tgccnaaagg tccgtggcaa aattggagaa aaccatcatg acctggaaga 720
cgaagtctac ncccanaaga tgaantacct tgccnggccg gccgttcaaa cccaattctg 780
cngatatcca tcacacttgc gggccgttca accttcct 818

<210> 260
<211> 813
<212> DNA

<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 260
acatctgcct tctgaacgag ttctcctcac cggctccact tacgctccag aaggagaggt 60
cttgaagaat gataagccag tccgggcagg gcagtatgat ggcctggtgg agctggccac 120
catttgtgcc ctctgcaatg actcctcctt ggacttcaac gaggccaaag gtgtgtatga 180
gaaggtgggt gaggccactg agacagcgct caccaccctg gtggagaaga tgaacgtatt 240
caataccgac gtgagaaacc tctcgaaggt ggagagggcc aacgcctgca actcggtgat 300
tcgccagcta atgaagaagg aattcacact ggagttctcc cgggacagaa agtccatgtc 360
cgtctactgc tctccagcta aatcccgggc tgctgtgggc aacaagatgt ttgtcaaggg 420
cgctcccgag ggggtcatcg agcgctgtaa ctacgtgcgg gttggtacct gcccgggcgg 480
ncgctcaagc cgaattccag cacactggcg gncgttacta gtggatccga gctcggtacc 540
aagcttggcg taatcatggt catagctggt tctgtgtgaa attggtatcc gctcacaatt 600
cacacaacat acgagccgga acataaagtg tnaaacctgg ggtgcctaat gagtgagcta 660
actcacatta attgcgttgc gctcactgcc gcttttcagt cnggaaacct gtcntgccac 720
tgcttaatga atcggccaac ccccgggana ggcggnttgc gtattgggcg ctnttccgct 780
ttcttggtta attgattnct tggcttgggc gtn 813

<210> 261
<211> 491
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 261
gggncatctg ccttctgaac gagttctcca tcaccggctc ccttacgctc cagaaggaga 60
ggtcttgaag aatgataagc cagtccgggc agggcagtat gatggcctgg tggagctggc 120
caccatttgt gccctctgca atgactcctc cttggacttc aacgaggcca aaggtgtgta 180
tgagaaggtg ggtgaggcca ctgagacagc gctcaccacc ctggtggaga agatgaacgt 240
attcaatacc gacgtgagaa acctctcgaa ggtggagagg gccaacgcct gcaactcggt 300
gattcgccag ctaatgaaga aggaattcac actggagttc tcccgggaca gaaagtccat 360
gtcccgtcta ctgctctcca gctaaatccc gggctgctgt gggcaacaag atgtttgtca 420
agggcnctcc cnanggggtc atcgagccct gtaactacnt gccgggttgg nccttgccng 480
gcggccgtta a 491

<210> 262
<211> 828
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 262
tgcaacctga acacaacctt ttttgatcca gcaggtgggt ggagacccta tcctttatca 60
acacttgttc tgatttttcg gacacccaga agtatacatt ctcatcttac caggattcgg 120
aataatctcc cacattgtaa cctactattc aggtaaaaaa gaaccatttg gatatatagg 180
catagtatga gccataatgt ccattggatt cttaggtttt attgtatggg ctcaccacat 240
attcaccgta ggaatagacg tagatacccg agcatacttt acatctgcta caataatcat 300
tgctattccc actggagtaa aagtatttag ttgattagct accctgcacg gcggcaatat 360

taaatgatcg cccgcaatac tatgagctct gggcttcatc ttcctattca ccgtaggagg 420
tctaacgggc attgacctgc ccgggcggcc gctcgaaagc cgaattctgc agatatccat 480
cacactggcg gccgttcgag catgcatcta gagggcccaa ttcgccctat agtgagtcgt 540
attacaattc actggccgtc gttttacaac gtcgtgactg ggaaaaccct ggcgttaccc 600
aacttaatcg ccttgcagca cattcccctt tcgccagctg gcgtaatacc gaaaangccc 660
gnaccgatcg cctttccaac agtgcgcanc ctgaatggcn aatggacncn ccctgtaacg 720
gggcattaac cccggcgggt gtggtggttc cncccaacgt gaccggtaca ctttgccanc 780
gcccttaacg cccgtccttt cgtttcttcc ttcctttntt ggccacgg 828

<210> 263
<211> 805
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 263
aacctnaaca caacctttttt tgatccagca ggtggtggag accctatcct ttatcaacac 60
ttgttctgat ttttcggaca cccagaagta tacattctca tcttaccagg attcggaata 120
atctcccaca ttgtaaccta ctattcaggt aaaaaagaac catttggata tataggcata 180
gtatgagcca taatgtccat tggattctta ggttttattg tatgggctca ccacatattc 240
accgtaggaa tagacgtaga tacccgagca tactttacat ctgctacaat aatcattgct 300
attcccactg gagtaaaagt atttagttga ttagctaccc tgcacggcgg caatattaaa 360
tgatcgcccg caatactatg agctctgggc ttcatcttcc tattcaccgt aggaggtcta 420
acgggcattg tacctgccgg gcggccgctc gaaagccgaa ttctgcagat atccatcaca 480
ctggcggccg ctcgagcatg catctagagg gccaattcgc ctatagtgag tcgtattaca 540
attcactggc cgcgttttac aacgtcgtga ctgggaaaac cctgcgttac ccaacttaat 600
cgcttgcagc acatcccctt tcgccagctg gcgtaatanc caanagcccg naccgatcgc 660
ccttccaaca gttgccaacc tgaatggcga atggacgccc ctgtacngng cattaagcnc 720
ggcggtgtgg tgggtccccc aacgtgaccg ttcacttgca gggcctacgg ccgttctttc 780
gtttcttcct tccttttttgc acggg 805

<210> 264
<211> 800
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 264
ctnactcaca ttaaccacac taactattct aacnatccna attataatat ccaactcaaa 60
catctacaaa actaaccttt accctaacta cgtaaaaacc accgtatcct acgccttcac 120
tctcagccta gtccccttac taatatttat acacacaggc caagaaataa tcatttcaaa 180
ctgacattga ataaccctac agaccgtaga actctctctt agctttaaaa tagactattt 240
ctcagtaata ttcattcccg tagcactatt cgtcacatga tcaattatag aattctccat 300
atgatacata cactcagacc ccttcatcaa ccgattcttt aaatacctac tactattctt 360
aatcactata ataatcctcg taaccgccaa caacctcttc caactattta tcggatgaga 420
aggcgtanga atcatatcat tcctgctaat tggatgatga cacggacgaa cagacgccaa 480
cacagntggc ttcaagcnat ctatcaacgc atnggagaca ttggattggg ctatcntagg 540
ctggatncta acccccttaaa cgctgagact tnacaaattt tatactaaca atgaatgccc 600
aacattccct taatcggcta ctctaactgg nncngganaa tnnctcaatt nggctacatc 660
ccggatggnc ctangcaata naanacccac ttccggttan ctttctacac ttcaanacct 720
ggccnggggg gcgttnnaaa gcccaatntg ggnanattcc ttacactggg gggccnttna 780
anttgctttt aaagggccnn 800

<210> 265
<211> 700
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 265
ctnttaataa ccattgaact gaagtngatg ttctggtagg acttatagaa aaggtgacgg 60
taacccgaaa catgcatgca ctgctttggt gaccaggggg gtcaccccgt gtctccggga 120
ggccagctta gggcttagct ctcactgctc cccagggtgt gcttgtcaaa gagatactcg 180
gccatgccat actcgggggc ccccatcctg tgcaagttgg taatgtggtc acccaattct 240
ttgatggctt tcacctgctc atccaggtaa tgcgtctcaa tgaagtcaca caagtggggg 300
tcatttttgt cagtggccag tttgtgcagt tccagcaggg actgattcac gttttttttcc 360
aagtgcagcg cacattccat ggcagtcagc ccattctccc agtcatcgcg ctccggtttc 420
ttgatatcct gaaggaagat tcggccacct cgttacctgc cgggcggncg ctcgaaagcc 480
gaattctgca gatatccatc acactggcgg ncgctcgagc atgcatctag agggccaatt 540
cgcctatant gagtcgtatt acaattcact ggccgcgttt tacaacgtcg tgacttggga 600
aaaccctggc gttacccaac ttaatcgctt gcaananatc ccctttccca nctggcgtaa 660
tanccaaaaa gcccgcaccg atcgcctttc caaaagttgc 700

<210> 266
<211> 816
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 266
ttacaggatg atgcagactg ttcgccgaat ggagttaaaa gcagatcagc tctataaaca 60
gaaaattatt cgtggtttct gtcacttgtg tgatggtcag gaagcttgtt gcgtgggcct 120
ggaggctggc ataaacccta cggaccatct gatcacagcc taccgagctc atggctttac 180
ctttactcgt gggctttctg tccgggaaat tcttgcggaa cttacaggac gaagaggagg 240
ttgtggtaaa ggaaaaggag gatcgatgca tatgtatgcc aagaacttct acgggggcaa 300
tggcattgtg ggagctcagg tgcccctggg agctgggatt gctctggcct gtaagtataa 360
tggaaaagat gaggtctgtt tgactttgta tggagatggt gctgctaatc agggtcaaga 420
tatttgaagc ttacaacatg gcanctttgt ggaaattgcc ttgngttttc atctgtgaga 480
ataatcgcta tgggatggga acgtctgtgg agaaagccgc accacactga ctctataaga 540
aangcacttn attcctgggc tnaagggana tggaatggat atcctgtgtg tcccggaagg 600
ccccaagggt tgcancttgc ctactgnaaa tctggaaang gggccatact gatggaactt 660
nanacttacc ggtaccatgg acncnnnnta atgaancccg gancagtnnc cgnncnttta 720
ccttttgccc aanttgccna attnttaaa aaaantttg gncctcccg ggnggggcntt 780
naaaacccaa tttcnnnnca ntgggggggcn ntnntn 816

<210> 267
<211> 808
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 267

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agaactgcgg ggattttcca tacttgacaa taactcagaa ctgctgcagg aaggtcatgc 120
acgatatttg gttgctccag cagagagcag cacggagcct ctcggaaatt ctgtgtcttt 180
agggctctca ggaaaggcgt atgaaggctg ctggtggatt cggaggtttt aaagtcagta 240
acgtgtcgac aggtgagaac agttacttgc atgttcttct ttggacaaga gccgaaaacc 300
ttttccagcc actgaaactg ctggtcttca gccacgtagc aactgcactg acagagcaaa 360
accgagggat tcgattttag gtgataaaac acacaaaaag cctccgctgg ggacagatgt 420
gtagtgtctg ttgtccggca ccactcattc cagagcttan cacaaccaac ttcttcccag 480
actcctgaat tcatgacaaa tgatgataaa aatgctactg cattatttcc tatagcgatt 540
atgaacttgg agcaaggata tttttctagc agagaaacgt ccaaagatgt ttttggctgt 600
cttcgaagga gccgaacctc ctctttcgtg ccagctgtcg ccggacttcc tgtcctcggg 660
cgtttccttc tccctcttct tctctnctna tcctncgtcc ggttcggaan gngccttnac 720
cacttgccna aaactggncc ccatggctcc ntccggncgg nttgcnacct gcccggcggc 780
cgttcnaaac ccaattntgc anatncct 808

<210> 268
<211> 814
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 268
ttgtatccna tggtgtggac aaccccggcc acccccttata aagaccgtgg gcatggtggc 60
tggtgatgag gagtcctatg aggtgtttgc tgacctcttt gacccagtca tcaagctgag 120
gcacaatggc tacgaccctc gggtgatgaa gcaccccacc gatctggacg catccaagat 180
cacccagggg cagttcgacg agcgctacgt gctgtcgtct cgggtgcgca cgggccgcag 240
catccgcggg ctgagcctgc cgcccgccta acatgttgag tgcggtcatg atccgccagg 300
tggaatctgg aatcgagctg tcatatcctg catacaacac ctcgggttca atgacttcca 360
gcagtgacac caggacctgc ccgggcggcc gctcgaaagc cgaattctgc agatatccat 420
cacactggcg gccgctcgag catgcatcta gagggcccaa ttcgccctat agtgagtcgt 480
attacaattc actggccgtc gttttacaac gtcgtgactg ggaaaaccct ggcgttaccc 540
aacttaatcg ccttgcagca catccccctt tcgccagctg gcgtaatagc gaagaggccc 600
gcaccgatcg cccttnccaa cagttgcgca acctgaatgg cgaatggacg cccctgtanc 660
cggcgcatta agcgccgcgg gtgtggtggn tacgcgcanc gtgaaccgnt cacttgccag 720
cgccctancg cccggtcttt tcgctttctt tccttncttt ctngcacgtt cgccggnttt 780
ncccgtaagc tttaaatcgg gggcttccnt tagg 814

<210> 269
<211> 819
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 269
cttcagaaag gggtagtaag ggtgatcgac agcaaagagt aacttaaaat atcttaaatt 60
ttggttgagg ccatcgattg ttttcatatc ttctggaggc aattcaaagt caaaaacctg 120
gaagttctct ttgatcctct gctcattgaa gctcttggcc aggaccacca ctccccgctg 180
cagctggtag cgcagggcaa cctgcgctgg gcttctgttg tgtttcttgg caatagcatt 240
taagactgga tcctctaaga gatatgggtt gctctcttcc acccactttg agtttctttg 300
ggatcccagt gcactatagg caactagaac gatgtccttg gacttgcaaa actccagaag 360
tttgctctga ttgaggtaag ggtggcattc cacctggttg cagacgggct tgtacctgcc 420
cgggcggccg ctcgaaagcc gaattccagc acactggcgg ccgttactag tggatccgag 480
ctcggtacca agcttggcgt aatcatggca tagctgtttc ctgtgtgaaa ttggtatccg 540

ctcacaattc cacacaacat acgagccgga agcataaagt gtaaagcctg gggtgcctaa 600
tgagtgagct aactcacatt aattgcgttg cgctcactgc ccgctttcca gtcnggaaac 660
ctgtcgtgcc agctgcatta atgaatcggn caacgcncgg ggaaaagcgg tttgcgtatt 720
gggccgctct tccgctttct ngntcactga ctcgcttgcg cttcggtcgt tcnggntgcg 780
gcaaancggn attaacttac tcaaaaggcg gnaatacng 819

<210> 270
<211> 536
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 270
nttnatttga cacctnctgt atgacagtga actttgggca ccagcctctg agggccacaa 60
atccagcccg gagggtgggc caggcaagga ggaagctcca gagctggacg aggccgagct 120
ggactacctc atggacgtgc tggtaggcac acaggcactg gagcggccac cagggccggg 180
gcgctgaccc ccagggatgg agtggtgagc tggtgtcgaa actgagcctg gtggctggac 240
caactctcct taaagacaca gccggcttcc ctagagaggg actttggaga gaaggaatcc 300
tgtcctgggc aagtttacct ccaccctcca tccccttcac ttatggccga tgggggagt 360
ctgggatggg ctcctgtgat gaaatgccag gacctggtgg ctggaatgtg attggaccan 420
gcccagtgtt gaattcccag aggtcaaagc ctagtatccc ttttcactga tgtgggaaga 480
gaccccaacc agttctgtga aattaaagcc ggtcctggga agtcgcaaaa aaaaat 536

<210> 271
<211> 828
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 271
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cccctcttca cagttgtttt catcttttgc accagatgtt ccacattcac ctgcaggtcc 120
cgaatggtga agggctcctc aaaaatatag gcagcatcgg ccccgctgc cagtcccgcc 180
atggtggcca ggtagccaca gtagccgccc atggtttcga tgatgaacac acggcgcttg 240
gtgcccgccg cggactgctt aatgcggtca caggtcatgc agatggtgtt gagagctgtg 300
tcggcccca cgctgaagtc tgagcccggc acgttgttgg agaccgtggc agggatgacc 360
acaaacggga tgcagagctc gtcatactgc ttcctgcctt ccatcagctc taggcccct 420
gtgtaagcct caaagccccc aatgatcaca aggccctgga tgttaaactt agtgatgttg 480
gcactgatct gttcgaagct cttcttgggg agagtccttt tagtcccaag tttagaacca 540
ccttggccag tccagccccc aacatagctc cagccagcct nctcgatctg acccttggct 600
aagccctcga agccatcgtg cacaaccagc actcggttgc cctggatgag gccaattctc 660
acaagtggaa ncggacaagc gggcattcat gcctgcggct gggcccccac gttcatcacg 720
gccactgtgt aagagccact cttantcact gggggtctga cgtgaaccag aagcttgnat 780
accttccagt tggtcatgaa gctncggcct ttaacttcat ggggttcn 828

<210> 272
<211> 815
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis

Porcine

<400> 272
tcagttaagc caaaatttcc gtggccagtg ttcagctaca gcttccttaa ccgtccttcc 60
tctagttgaa gaacctccca gagaggtagt attgaggaca agtggtgaca cgagcttgca 120
aggaagcttc tcgtctcagt cagtccaaat gtctgcctcc aagcaggagg cctccttcag 180
cagtttcagc agcagcagtg ctagcagcat gactgaaatg aaatttgcga gcatgtctgc 240
ccaaagcatg tcctccatga aagagtcctt tgtagaaatg agttccagca gttttatggg 300
aaaatctagt atgacacaac tggaaagttc aactagtaga atgcttaaag caggcataag 360
aggaattcca cctaaaattg aagctcctcc ctctgacatc agcattgacg agggcaaagt 420
tttaactgtc gcctgtgctt ttaccggtga gcctacccca gaaataacat ggtctcgcgg 480
cggaaggaga attcaaaatc aagaacaaca agggagattc catattgaaa acacagatga 540
cctgacacgc tgatcatcat ggacgtacct gcccggcggc cgctcgaagc cgattccagc 600
acactggcgg ccgtactagt ggatccgagc tcggaccaag cttggcgtaa tcatggtcat 660
actggttcct gngtgaaatg gtatccgtcc aattncacac acatccaacc ggaagcttaa 720
gtggtaagcc ctggggtgcc taatgagtga gctaactcac attaatggcg ttgccctcac 780
tgccgctttc cantngggaa accctgtcgn ncccg 815

<210> 273
<211> 824
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 273
agtattgnaa tggatctgtc ttcggtaaag accagcctat catccttgtg ctgttggata 60
tcacccctat gatgggtgtc ctggatggtg tcctgatgga gctgcaggac tgtgcccttc 120
ccctcctgaa agatgtcatt gcaacagata aagaagagat tgccttcaaa gacctggacg 180
ttgccattct cgtgggttcc atgccaagaa gggatggcat ggagaggaaa gatttactca 240
aagcaaatgt gaaaatcttc aaatgccagg gtgctgcctt ggacaaatat gctaagaagt 300
cagttaaggt tatcgtggtg ggaaacccag ccaataccaa ctgcctgact gcctccaagt 360
cggctccatc cattcccaag gagaacttca gctgcttgac tcgtttggat cacaaccgag 420
ctaaagcaca gattgctctc aaacttggtg tgacttctga tgatgtcaag aatgtcatca 480
tctggggaaa ccattcctca actcagtatc cagatgtcaa ccatgccaag gtgaaactgc 540
aggcaaagga agttggtgtt tatgaanctg tgaaggatga cagctggctc aagggagaag 600
ttcatcacga ctgtgcanca acgcggtgct gctggcatca aggctcgaaa actgtccagt 660
gcaatgtctg cggnaaaacc ctttgtgacc atgtnanaaa catctggttt tggaacccca 720
nagggagaat ttgtgtccnt nggcattatc tctgatggca actcctatgg ggttcctgaa 780
nanctgnnct actcattccc tgttcaatca agggtaaaac ctng 824

<210> 274
<211> 810
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 274
attttgcact caaagaaaaa ctgcagcgcc attgtcttct gacaaaattc tgcattaaaa 60
cctcacacaa tttgctgcaa atatattgcc cctttatcat gtagggactc caaaccacaa 120
acattcagtg caatatttat tgtttcttat ttccgtagga aacacaggac caatgatgtc 180
ttctgactac aactgtttcc tgatggttga gcaacagtct ccctctgctt tactttaaag 240
tcctcggccg cgaccacgct aagccgaatt ccagcacact ggcggccgtt actagtggat 300
ccgagctcgg taccaagctt ggcgtaatca tggtcatagc tgtttcctgt gtgaaattgt 360

tatccgctca caattccaca caacatacga gccggaagca taaagtgtaa agcctggggt 420
gcctaatgag tgagctaact cacattaatt gcgttgcgct cactgcccgc tttccagtcg 480
ggaaacctgt cgtgccagct gcattaatga atcggccaac gcgcggggag aggcggtttg 540
cgtattgggc gctcttccgc ttctcgtcac tgactcgctg cgctcggtcg ttcggctgcg 600
gcgagcggta tcagctcact caaaggcggt aataccggta ttcacagaat caggggataa 660
cgcaggaaag aacatgtgag ccaaaaggcc agcaaaaagg ncaggaaccg taaaaaaggc 720
cgcgttgctg gcggttttcc ataggctccg ncccccctgac nagcattcaa aaatcgacct 780
taaatcanaa gtgggnnaaa cccgaccgga 810

<210> 275
<211> 825
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 275
tttgntcgcc cntctnncgc ggcgaccagg gccccagccg gagagcagca ggtgtagcca 60
cccgcccaga aacccgacgc catgtgtgac gaagacgaga ccaccgccct tgtgtgcgac 120
aatggctccg gcctggtgaa agccggcttc gccggtgacg acgcccctag ggctgtgttc 180
ccgtccatcg tgggccgccc tcgccaccag ggcgtcatgg tgggtatggg tcagaaagat 240
tcctacgtgg gcgacgaggc tcagagcaag agaggtatcc tgaccctcaa gtacctgccc 300
gggcggccgc tcgaaagccg aattccagca cactggcggc cgttactagt ggatccgagc 360
tcggtaccaa gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg 420
ctcacaattc cacacaacat acgagccgga agcataaagt gtaaagcctg gggtgcctaa 480
tgagtgagct aactcacatt aattgcgttg cgctactgcc cgctttccag tcgggaaacc 540
tgtcgtgcca nctgcattaa tgaatcggcc aacgcgcggg gagaggcggt ttgcgtattg 600
ggcgctcttc cgcttcctcg ctcactgact cgctgcgctc ggtcgttcgg ctgcggcnag 660
cggtatcagc tcactcaaag gcggtaatcn ggtatncaca gaatcagggg ataacgcagg 720
aaagaaccat gtgancaaaa ggccacaaaa gggcaggaac ccgtaaaaag gccgcgttgc 780
ttggcgtttt tcataggttc cgccccccttg acaagcatta caaat 825

<210> 276
<211> 828
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 276
tttgactgcc ttaggacagc cacagcccta tgctgtgcac agccactttc agcccaccca 60
gacaggcttc ctccagcccg gtggcgccct gtccttacaa aagcagatgg aacacgctaa 120
ccaacaaact ggcttctctg actcatcctc cctacgcccc atgcatcccc aagctctgca 180
tccagccccct ggactgcttg cctcacccca gctccctgtg cagatgcaac cagcaggaaa 240
gtcgggcttt gcaaccacca gccagcctgg ccctcggctc cccttcatcc agcacagcca 300
gaacccgcga ttctaccaca agtgaccatc agagtctatc aacctcgctc ccagcccctg 360
ccccctactg tgggggagga tccctggtgt gcctcagtcc caggccaata aaatctacct 420
gccactgcca aaaaaaaaaa aaaaaaaaaa aaaaaaaacc tgcccgggcg gccgntcgaa 480
agccgaattc tgcagatatc catcacactg gcggccgctc gagcatgcat ntagagggcc 540
caattcgcct atagtgagtc gtattacaat tcactggccg tcgttttaca acggtcgtga 600
ctgggaaaac cctgcgttac ccaacttaat cgcttggaag cacatccccc tttcgcagct 660
tggcgtaana ccaaaangcc cggaccgatc gcccttccaa cagttgcgca accttgatgg 720
cnaatggacn cnccctgtaa cnggngcatt aagcgcggcg gttgtggngg ttacccccan 780
cgtgaccggt tacacttgca agggccttaa ggcccggttc nttttttt 828

<210> 277
<211> 814
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 277
gatccagagg ccgacaagaa gagcatggag tggttcaccg tcattgagca ttatcaccga 60
accagtgcca ccatttctga actggtcata ggaaacgaat attacttccg ggtcttttct 120
gaaaacatgt gcggcctcag tgaggatgcc acgatgacca aagagagcgc cgtgattgcc 180
aaagatggga aaatctacaa aaatccagtg tatgaagact tcgatttcac agaggcaccc 240
atgtttactc aacctttggt caatacttac gctgtagctg gttacaatgc taccctgaac 300
tgcagtgtga gaggaaatcc taagcccaaa atcacctgga tgaaaaacaa agtgactatt 360
aaggatgacc caagatacag gatgttcagc aaccaagggg tctgtaccca gctgtccccc 420
cactgtggga aggaacttct ggaagtgatc cattgagctg tcagagaaga catcagggtg 480
attttcatag ataaacttct ccaccctcat ttgccgtagt ttgaacatct tagagccccg 540
gttagtgagc agcgacaact cctncaacat cacatccctt gggacactga tcttcttgcc 600
caggttcagg cctgagctct cctgtccacc tncagtgagt tccatgatca gcttgctggg 660
atttcctctt cttgtttggg gctggggtcc cctgaaaacc ggcatttgtg gaagtgggtg 720
gagccggctg ctcaggcggt ggtcaactnt tcctggggtc caacggcttt ggangacacc 780
tgcccgggcn ggccgttcaa aacccaattn cact 814

<210> 278
<211> 812
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 278
ttnncnaagt natgcctctt tngctccggg angccctggg cgctgcccca cctgacagcc 60
tgaagcccta cgctgaggac atctgggcct tgctgttcca gcgctgcgag ggtgctgaag 120
agggcacccg gggggtggta gccgagtgca tcggaaagct cgtccttgtg aaccctccgt 180
tccttctgcc ccggttccgg aagcaacttg ctgcaggtca gcctcacact cgcagcactg 240
tcatcacagc agtgaagttc ctcatctcgg accagcccca cccaattgac cccctcctga 300
agagcttcat cggagaattc atggagagcc tgcaggaccc agacctgaac gtgcgccggg 360
ctacgctggc tttcttcaac tctgctgtgc acaataagcc ctcgctggtc cgagacctgc 420
tggatggcat cctgcccctg ctctaccagg agaccaagat ccaccgggac ctcatccgan 480
aggtggagat ggggcctttt aagcacacag tggacgatgg gctggatgtg aagaaggcgg 540
cctttgaatg catgtacctg ccggcggccg ctcgaaagcc gaattcagca cactggcggc 600
cgttactagt ggatccgagc tcggtaccaa gcttggcgta atcatggcat agctggttcc 660
tgtgtgaaat tgtatnccgt tacaattnca cacaacatac gancccggaa cntaaagtgt 720
aaagcctggg gtgcctaatg agtgagctaa ctcacattaa ttgcgttgcg ctnactggcc 780
gntttccaat cnggaaaact gtcngccaac tg 812

<210> 279
<211> 825
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 279
acnnntgatg ctttttggaa gngtncncac gatgagactg ctggcattcg tggtgttgac 60
tctctttgct gtcactcaag cagaagaagg agccaggctt ttggcctcca aatcactgct 120
gaacagatat gctgtggagg ggcgagactt gaccttacag tacctgcccg ggcggccgct 180
cgaaagccga attctgcaga tatccatcac actggcggcc gctcgagcat gcatctagag 240
ggcccaattc gccctatagt gagtcgtatt acaattcact ggccgtcgtt ttacaacgtc 300
gtgactggga aaaccctggc gttacccaac ttaatcgcct tgcagcacat ccccctttcg 360
ccagctggcg taatagcgaa gaggcccgca ccgatcgccc ttcccaacag ttgcgcagcc 420
tgaatggcga atggacgcgc cctgtagcgg cgcattaagc gcggcgggtg tggtggttac 480
gcgcagcgtg accgctacac ttgccagcgc cctagcgccc gctcctttcg ctttcttccc 540
ttcctttctc gccacgttcg ccggctttcc ccgtcaagct ctaaatcggg ggctcccttt 600
agggttccga tttagtgctt tacggnacct ngaccccaaa aaacttgatt agggtgatgg 660
ttcacgtant gggccatngc ctgatagacg gtttttcgcc ctttgacgt ttggagtcca 720
cgttctttaa tagtggactc ttgttccaaa ctggaacaac acttaaccct atcttnggct 780
attcttttga tttataaggg attttgncca tttcgggnct attgg 825

<210> 280
<211> 832
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 280
tntttgngcc tacctgttng aactatgggt cgcaaggggc agcacgcctc aggtgcccac 60
ccaggcccct ctctcacgag tccctgaagt cctcagcccc acctaccgac ccagtggccg 120
ttacactccg tgggaaaaga gcaagggcca gacccctgta tccagccgct ccagctcccc 180
cgggcgagac accatgaact ctaagagcgc ccagggtctg gctggtcttc gaaaccttgg 240
gaacacgtgc ttcatgaact ccatcctgca gtgcctgagc aacacccggg agctgagaga 300
ctactgcctc cagaggctct acatgcggga cctcagccac agcagcagtg cacacacggc 360
cctcatggaa gagtttgcaa aactaatcca gaccatatgg acctcatccc ccaatgatgt 420
ggtgagcccc tctgagttca agacccagat ccagagatac gcaccgcgct tcgtcggcta 480
taatcagcag gacgctcagg agtttcttcg cttccttctg gatgggctcc acaacgaggt 540
gaaccgggtc acagtgaggc ccaaagtcca gtcccgaggg cctcgaccat ctcctgatga 600
tgagaaaggg cgccagatgt ggaggaaata tctagaacng gaagacagtc ggatcgggga 660
tctctttgtt gggcaacttg aagaacttcc ttgacgtgta cctgccgggc nggcgntcga 720
aagccgaatt ccagcacact ggcnggccgg tactagtgga tccgagctcg gtaccnagct 780
tggcgtaatc atgggcatag ctggttcctg gggtgaaaat ggtatccgtt cn 832

<210> 281
<211> 301
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 281
ctggacnngc gctgaagcca ccaagccatg cgcttcctgg gcgacgagga gacggtgcga 60
aaggccatgg aggccgtggc cgcccagggc aaggccaagt gaaggggggg ctctggcaat 120
aaaggtacct caccccaaaa aaaaaaaaaa aaacaaaaaa aaaaaaaaaa aaaaaaaaaa 180
gcttgtacct gcccgggcgg ccgttcnaaa nccnaattnt gcaaatntcc ntcanactgg 240
cggccgttcn accntgcntn taaagggccc anttcnccnt atagngagtc gtnttacant 300
t 301

<210> 282
<211> 801
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 282
ntataaggct gttttggaga tggagacatc tgttgggtga gtagcttctc tcttggtgtc 60
ctggcagcta cgggaagcca gggcgatctg cctggccagc ttcagggctt ctatccgcat 120
gatggtaaac tctaactcct cctgaagttt ctgagcaaat actgggggg ttcttttctg 180
ctaagtcggg ttccagatag tcaagcgcac cacagagaga ggccggatga gccancctgc 240
tgaggagggc atcancaaag gcaaagganc cctcggnagc tgtantttca atcacttntg 300
acncggngcc caaggccntg gcntccagct ntttttggaa ggattntttt ggcacntgca 360
attgtggntc cngnttgggg gccacccntc gnntnacgga atnntgnatn tnaccccggn 420
gttcacaaaa nnttaagtnt cntnaaaact ggacntgaac acggttcggg nantccaact 480
tccgaccggg gggaaactna gaccgggntn tctcnnaaaa ntntaacaca tanggccntg 540
cccgggcggc ctntaaaanc cnattccanc acantggggc cgtntntagg ggatccnatc 600
tnggcncaan tntnggngaa antnngnata tatntgtccc tgtganaaan tgntatccnc 660
tcanaattca cacaatatan gacccngaac cataagtgaa acccnggggc cctaagaggg 720
actncccana ttannggggnn gccntantgc cttttncagg ggaaaacntg tncnccnctt 780
tattaaaaat cncccccccn g 801

<210> 283
<211> 832
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 283
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cattcacacg cacacattca ctcaggcgcg cgcgcacgca cacacacaca ccccagagcc 120
accaaggaag ggaaacacca agggtcgctg cacataaaaa tgccacctca tccctgatgc 180
acgcatgttc tcccaaggcc acgctcacac gacacacatt ataagcactt tgcctgattc 240
actcactggg tctgtctttt gtgggaagga gaggaggaat tcatcaagct ctcctcccca 300
gggtggggga gcagggagtg agtgagtgat ggtggagtga aacaagagca nagaaaaggg 360
gctgggcagt tcagacctga gtcccaagct cccccactct ctggcccctg atttgccatg 420
ccccaatctt gtgagccacc cacaagccnc cagctacctn caggtgaaag ccanaaatga 480
cggcttncac cttggcaccc caaanttgan gncanncagc aacccggggt tagaatgttt 540
ggaggttctn anaacncttt cngctaaatn atccccttgg attaactngg ctgtgccnta 600
aaaactttcc cnanccccttn acctatnaca ngaagcnanc tttgtgncct nntgaaggnn 660
naccttnang ggttaattaa naaccttcac cctcctaagt tgccaatttt gaaaaatctt 720
ccctttccgg atacaggntg nngaaantgn ggctttgaca ccaggttnaa agaccttncc 780
ctgggttngn ccaccctaaa aattcnctcc taaangnggn atanggggtg gg 832

<210> 284
<211> 832
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 284
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cattcacacg cacacattca ctcaggcgcg cgcgcacgca cacacacaca ccccagagcc 120
accaaggaag ggaaacacca agggtcgctg cacataaaaa tgccacctca tccctgatgc 180
acgcatgttc tcccaaggcc acgctcacac gacacacatt ataagcactt tgcctgattc 240
actcactggg tctgtctttt gtgggaagga gaggaggaat tcatcaagct ctcctcccca 300
gggtggggga gcagggagtg agtgagtgat ggtggagtga aacaagagca nagaaaaggg 360
gctgggcagt tcagacctga gtcccaagct cccccactct ctggcccctg atttgccatg 420
ccccaatctt gtgagccacc cacaagccnc cagctacctn caggtgaaag ccanaaatga 480
cggcttncac cttggcaccc caaanttgan gncanncagc aacccggggt tagaatgttt 540
ggaggttctn anaacncttt cngctaaatn atccccttgg attaactngg ctgtgccnta 600
aaaactttcc cnanccccttn acctatnaca ngaagcnanc tttgtgncct nntgaaggnn 660
naccttnang ggttaattaa naaccttcac cctcctaagt tgccaatttt gaaaaatctt 720
ccctttccgg atacaggntg nngaaantgn ggctttgaca ccaggttnaa agaccttncc 780
ctgggttngn ccaccctaaa aattcnctcc taaangnggn atanggggtg gg 832

<210> 285
<211> 822
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 285
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tcacttctcc ctgcacagga gggttggaat actgtggtcg acgcccatag ggtctccgca 120
tgtagtaagg tgggaacctt cgcctgcggt agggccggcg ctgttgggcc tgccttcggg 180
agcactctct gatccctcgt tcttttcccc actctcacta ttctggtaat tctgctggta 240
attgcgtgga ggacccctgc gacgtggata gcgtctataa tgggttacgg cctgctgcat 300
attactgcct tgactggaac tccaccaggg cctgtaacgt ttgctgcctc cgaacccttt 360
tntccttnac accatcaaac tccacagtnt ttccatctcc tacactgcna aggtacctgc 420
ccgggcggcc gttcaaaagc cgaattccag nacactgncg ccgtnctagg ggatccaanc 480
tcgtacaact tgggcnaanc atgggcatan ctgtccctgt gaaaaattgg tttccgctca 540
cattcccaca aaatnncaaa cccggaanna ttaaagtgta aaccctgggg ggcccnaatg 600
agtnanctnn actcacntta aattgnnttt ncnctncagt gcccntttтc aantcgnaaa 660
aacctgtngg gcccanctgn tttaaanaat tggcccaacn ccncggngaa naggcntttg 720
ctnttggngc ccttttccnt ttcctnggna naaaannntc nntgccctgg gncnttcggt 780
tgcggaaagc gttttcactt cnttaaaggg gggtattccg nt 822

<210> 286
<211> 559
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 286
nagnnactac tctttncnaa atcgcgattt tgtaggacat tggtgatata agggaattat 60
gttttcttct tccacacata ctgagagaac ttgtcccttt ctgtttactc caattattcc 120
agctgtggct tcatgaggtg cagtaacaaa gattgtttcc ccactgattc tattcatgta 180
gatgcaggta cctgcccggg cggccgctcg aaagccgaat tccagcacac tggcggccgt 240
tactagtgga tccgagctcg gtaccaagct tggcgtaatc atggtcatag ctgtttcctg 300
tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgta 360
aagcctgggg tgcctaatga gtgagctaac tcacattaat tgcgttgcgc tcactgcccg 420

ctttccagtc gggaaacctg tcgtgccanc tgcattaatg aatcggccaa cgcgcgggga 480
gaggcgggtt gcgtattggg cgctctttcg ctttctcgct cactgactcg ctgcgctcgg 540
tcgttcggct gcggcgaac 559

<210> 287
<211> 488
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 287
gntaagttca caggacaaca aaggagcagc agaaacagcc aggaaaacga agagccctac 60
cttttcacac tgagcccccc atcagagttc tcgaattcta aagtattctg caaagtgcca 120
cttgaccgga acttttcgcc tgccttttct tttctccaac caccaccatg actgagatca 180
cggcttgaag ggaaatgcat ctactaccac ccactggtga atagaacagn caagaaccgg 240
gatcttgtgc ccaaatccct ggaaaaggtg cttaaaaagn anngcncnga aaaactnagt 300
gancaccttt nanttcccaa caacctggct tctnggcann ggtctnnnca nnanntggnc 360
anctgnggcc ngtggtatgn ttgacntaat ggattacnaa aacttttcan caagctctat 420
ttccaagant ggctcaganc ctttaaaact tggcctgccc nggcgggcgn tcgaaagccg 480
aattctgc 488

<210> 288
<211> 821
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 288
ttnaatgcct tcttgcagtg atatgtgatg ttctgggaag ctcggctaga gagaagtcga 60
aggaatgcca actggacatc aaggacatct tcaggaagtt caggattgcc atagctaaac 120
tgaaaaccac cattcatgga ttctccaaac caaacatatt tcttctcagc accagaatct 180
gtccaccagt tcttacgtgg aacagtagaa ggactggcac ttatgcatgt ttccccagtt 240
tccatgttac aaaatacttt aatagcatcc attttgcagc cttggttagg atcaacccaa 300
tattctccgc tcttgagctc aggatggcag aattttaggt ctctgcagtt acgagcaggg 360
tttttacgag aaccatcggg actaatgagg ctttctattt gtccgttgac ggatttaagt 420
gaagtcataa tctcgtcggt gttgattttg aaatccattg gttcatctnc ataatatggg 480
gcaaaaccac cagcttttca cctncaacac cagcgatggc agnagcccca ccaccacaac 540
atggaccatg ggcaccaggg ggtccangag ggcctggttg tcctggatgg cctggggagc 600
ctcagatcct ctttcacctc tgttacctcn naggccctgg nggnccaatg gggaccnggg 660
tgncncttgc tccatctttg nccangggggg ccacttnggt ncaacanggt cctntnggggg 720
cctgcaagtc ctgggctacc ctactggacc ttngttganc anncnggacc tgganaacct 780
ngggcaccct ggattnccag ggaatnctnt antgtncttn g 821

<210> 289
<211> 841
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 289
ttatgtagaa taccgaacca gtgccgcttg ctngtgttgg tgtgacagca natggcgtcn 60
tactggtcgg ccagccacac gatgaggatg atgtagaagg ctgaggtggt gtcgntgang 120
aactcggnca tgatggnctn catccncncn agggccaaga tgacngtcac cangggtgct 180
gcggangaag gcggatggcc atgttcatct ccagcntctg cagcntgtcc acaatganga 240
cnnagatctg atggtgggag taacgcatcn gcatggacac antcacggtg aaaatgaccn 300
tgatgactaa ggcggncatg taggacgtgc gtgccatnca catgctcncg aancggtagt 360
gctccccgga caccangtnt ccnaggaagn ccttgttntc ctcgttctnc gccatgccct 420
tcacantgga catgaagatg tnatcgnagc ccnggaactc gnccncatna ggccantgaa 480
gcggtccccn aaacactgga ttcctcgtgg agtccagggg tgacccacca tgacanggat 540
gcttcaaccg ctgcctggtg gccttgatac ngcngcctga aaacctnacn ctgaccnggc 600
tgccnctnga aangcccaat nctgcagata tccntcacnc tngcnggcgn tccatcatgc 660
tttntaaggg cccaattacn cctattatga gtnctattan nnattcactt ggccgtcntt 720
ttacaanttg tganntggga aaaccttgnt gtttcctaaa ttaatccnnt tgnagcnaat 780
tctccntttg ggctgnttgc ngtaatannn aaaanggtca ncnctttttgt nctttnncan 840
c 841

<210> 290
<211> 824
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 290
gttttnccac cctanaacaa ccttgcncct cggaacagag cacaggctca tgtgacacca 60
gccctgacac agtctcgccc tccctcagcc ctggcttcna ggacctgtcc catgtccggc 120
ctggctnccc tgccatcaat ggccacagcc atacagatga cgaggagaca ccaggcgagt 180
agctctcctc ctgggagctc caaggggtct cagagcancg gcagcaccaa ccccacatgt 240
ctgangtggc agcagatagc cctgccccat gatggtcagc tctgcctccc tattctgtca 300
tttggggccc cctgggggac aaggctccct ctctggaata tggaattcct ggggatcttt 360
cattcccacc cttcctcact gagaatatct ctcctctgta gacccctctg ccaggccann 420
ggacaagcan cccanctgga gtcattgggt tgggctcaag gaaacttcca gagccaggcc 480
tgngatctgg gtctgaacaa cactcatgat tcccagagac catatccaga tgtcnctgcc 540
cacaccctgg tcaggacctt ctcaaggcgg cnncactgna tgtctgattt catnctaanc 600
catccttgca tttactaatt cttgtntcct tgcttctccc ttccaatgaa agganttcan 660
tacctgcccg ggcngccntn ncaaatcnna attctatcnn actnggcggg cgttcnaatg 720
gatcccanct ngnncccaag cttngnngtt annaanggtn atanntgnnt nctggngnga 780
aantgttnta tcctttantn ttcnccacnn gtttggngnc ggnn 824

<210> 291
<211> 698
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 291
ctgcnattgg gcactgatga gacccatgcc cgtgtcagcg tgcacgatct gcatgtgggc 60
atcaccaaaa gactgaagac agtggaggtg ctggtgggtg agagctgcag ctttgaatgt 120
gtcctgtccc acgagaacac tggcgatgtg gctgtgtgga cagttggtgg gaaaacggtg 180
gccagctctg accgtttcca ggccactcgc cagggccgca agcacctgcc cgggcggccg 240
ctcgaaagcc gaattctgca gatatccatc acactggcgg ccgctcgagc atgcatctag 300
agggcccaat tcgccctata gtgagtcgta ttacaattca ctggccgtcg ttttacaacg 360
tcgtgactgg gaaaaccctg gccgttaccc aacttaatcg ccttgcagca catcccccctt 420

tcgccagctg gcgtaatagc gaagaggccc gcaccgatcg cccttccaac agttgcgcag 480
cctgaatggc gaatggacgc gccctgtaac ggcgcattaa agcgcggcgg ggtgtggtgg 540
ttaccgcanc gtgaccgctn cacttgcagc tgccctaacc gcccgctnct ttcgctttct 600
tcccttcttt ctcgccacgt tcnccggntt ccccgtcaag ctctaatcgg gggcttcctt 660
taagggttcc gattaagtgc tttaccgggc cttnaccc 698

<210> 292
<211> 737
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 292
tnnttncgag ttggtcgtgt tcacagcaag catggagatt tacggctctg ccgtggcaga 60
taaactggac aatagcagaa gcattctcaa gaggagatac tacagacagc actgcacttt 120
ggaattgggc agctacatca aggacctctc tgtggtccac agtgacctct ccagcattgt 180
gatcctggat aactccccag gggcttacag gagccatcca gacaatgcca tccccatcaa 240
atcctggttc agtgacccca gcgataccgc cctcctcaac ctgcttccta tgctggatgc 300
cctcaggttc accgcggatg ttcgttctgt gctgagtcga aaccttcacc aacataggct 360
ctggtgacag ctgctccccc tccacctgag ttggggtggg ggggaaggga gggtgagccc 420
tcgggatgcc gtctggtgcc ctggccaacg gtgaggactg nctgggcaga gtctgccctt 480
ccaccccttt ctgccctggg agccctgcac tccgtatgga gtctggatgg acacatgggc 540
canattctga acagnctnac tntaacttcg ngttcgcact ncccggaaac cccagactgg 600
gacataaagc ggangcctgg ganagctgaa acattgctgg gtggaaaaag gactggcnnn 660
agtgagcgaa agacactngg taatncngga ggctnaaana gaacccaagc ctctttggtn 720
gggattgatt tttaaaa 737

<210> 293
<211> 816
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 293
ntatgcaaat cacaactctt cgtgtagcag caaaaccaca gcagttttta aaaagattaa 60
aaaaagattt ttgttttcaa atccgtatcg tcttccagcc tcaccctctg agccttgaag 120
atggggcggg gagaatacct acattggtcc ttgtgtttcg ttggtgtttt gttttgttgt 180
tgttgttgtt gtttttaaa ccaggggcaa aaatccctaa gttcctctgg ggagaagcag 240
agatggtggc agcaggaagg ctgggcctgc ttggtgggtc caagacgtgc tggcttctct 300
gggctagagg ccaccgaggg agggctgctt cctctgagat gcttaatgac aggaagcggc 360
tttatttgct tgagtttcag ccagaggggg tggtgagctg accaactggt gtcattggat 420
ggcgagacat agtttgctct gtgccctctc tccacgcaag gtacctgccc gggcggccgc 480
tcgaaagccg aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa 540
gcttggcgta atcatggtca tagctggttc ctgtgtgaaa ttgttatccg tcacaattcc 600
cacaacatac gagccggaag ctaaagtgta aagcctgggg tgcctaatga gtgaactact 660
cacattaatt gcgttgcgct actggccgct tttcaatcgg gaaacctgcg tgccanctgc 720
attaatgaat cggccaacgc nccgggaaaa ggccggtttg cgtattgggc gctnttccgc 780
ttncttggtt actgaattcn nttggcttcg gncgtc 816

<210> 294
<211> 808
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 294
tacagcttgg tgacccatta ccatagatat atacattctt ttttgtcaca ctatcatgct 60
ccatcataag tgatgtgaca tagttcccac tgctataaag caggatctca ttgcttatcc 120
attccaaagg caatagttta catctattaa ccccaaattc tcaatccatt ccactgcctc 180
tcccaccccc ttggcaacca caggtctgtt ctccatgtcc gtgattaaat atatacttta 240
agcatttata atttatagct tctgaattta cctttatcta ctacccatct atcttctatc 300
tgtatttccc ctgcccactt ttcatttgca ctatgtgatg gagaatacgg gttgccaatg 360
cagccacctg gaaaaaaata cgtttccctt tcttccttgc atatataagt gggcacgtga 420
tgcaattctg gacaatgaaa tataaaatta tttgagcttc atgtaaaaat catttttaa 480
aaaaatttta cctgatccta gtttttcatg agaggatata tattattatc tttgnattct 540
actttattcc aattccagtc ttcatgtcat caatttttgt cagttacttt aaactgncat 600
atatgatcac agttttggca gttctttaaa ctgnaatgng tgttggacct gcccggcggc 660
cgctcgaaag ccgaattctg cagatatcca tcacactggc ggccgntcga ncatgcatct 720
agaaggccca attngcccta tagtgagtcg gattacaatt cactgggccg cgttttacaa 780
cgtcnngact ggggaaaacc tggcgttn 808

<210> 295
<211> 600
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 295
nattgtaagc aaaatagttg aaaaatcaat atgctccttg tgtttttaaa tgtcaaagtt 60
tgtgttaggg tttatttggt tatgacacag tgatcataaa tgatgaaatt taataaatgt 120
tatactctaa catggtacag acaaaaaaaa aaaaaaaaaa aaaaccattg ctcagtatac 180
cggcccaaag acaggaaatt tgcagtgtat actctaactt gcaaatacac agccttgagc 240
aattgagttg atctgacttg tgattatgaa tttataaatt agggctgtgg gctactgtag 300
acctaatgaa tgatggatct gtacctgccc gggcggccgn tcgaaagccg aattccagca 360
cactggcggc cgttactagt ggatccgagc tcggtaccaa gcttggcgta atcatggtca 420
tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga 480
agcataaagt gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg 540
cgctcactgc ccgctttcca gtcgggaaac ctgtcgtgcc actgcattaa tgaatcggcc 600

<210> 296
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 296
ttngctggcc cattgacaag ttcgngtacc tatttttttt aaaaaaagcg gaggtggggg 60
ggagtcctta ttctggacag tccgtgccat cagggcacat cccacagggc agctctgaga 120
accagcaaag cacacagcct ggcatccaga gacctgccca gccccctaa ggccacataa 180
tttgcaaagg acagagtttg gtttggagac cagggaaggg gctttcgcaa atttttcctg 240
tcctgccccc caaccaaacc tctcccacct ggttcatttc cattcttctg tttcctaaca 300
ttgctcctct ctgtcccctg gccccaaccc tgaattatct gtttaagata aaaaccctag 360

aaagaagcct caaagccctg gaatcaggaa gaaagagtgt gtacctgccc gggcggccgc 420
tcgaaagccg aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa 480
gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc 540
cacacaacat acgagccgga agcataaagt gtaaagcctg gggtgcctaa tgagtgagct 600
aactcacatt aattgcgttg cgctactgcc cgttttcagt cgggaaacct gtcgtgccac 660
tgcattaatg aatcggccaa cgcgcgggga gaggcggttt gcgtattggg cgctctttcg 720
cttcctngnt cactgactcg ctgcgctcgg 750

<210> 297
<211> 675
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 297
tatttagcac atggggtttg gaaccttatt tttaaatgta aatattttag ctcattttag 60
ttctaattgt cctgacttag cttgggtttt tccttcccat gttcctgaag agaggtttac 120
agttccctga ttccccttga tttccagtca tttgaacagg aaaagtgcct aagcatgaag 180
agtgtctttt tctccctgct cgcctatctt caaaattgaa aacgattctc ttcccttcct 240
tccctcctct cactccacat ttcctgcctc atcccgatcc cctgacacag gaaaaataac 300
tttgggagat tagaaagggg gtataaagat ttggaattca aaacaggaca tctcagaagg 360
tgtacctgcc cgggcggccg ctcgaagccg aattccagca cactggcggc cgttactagt 420
ggatccgagc tcggtaccaa gcttggcgta atcatggcat agctggttcc tgtgtgaaat 480
tggtatcgct cacaattcac acaacatacg agccggaacn ttaagtgtna aacctggggt 540
gcctaatgaa gtgagctaac tcacattaat tgcgtgcgct actggccgct tttcaatcng 600
gaaacctgtc gtgccactgc attaatgaat cgggcaacgc cccggganaa gcggttgcgt 660
attgggcgct ctttc 675

<210> 298
<211> 823
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 298
ctgcaataca aaacccttct gaaagaaata ctctaaggct tctccaattc aaaaaaagaa 60
aaaagaaaaa aaccattgga aagcagtgac ttagaaagcc agcatacaga tctaaccatg 120
aagatatcaa aaacataaaa tgaaataaac tacatcaaag tatacaatga gggcgaggaa 180
tggaagaaaa tgtaaatcct ttgtcttgtt tcaatgacgc gtttggtcct atgtaacggt 240
caggctaaag tgagcagaca aacgaagggg ttaacataaa aacaaaacag ggcaacccca 300
atccaaaagc caccactaca ttcaaaaatc ggaaaaggaa aggactccag cagagaatca 360
acggaaccca tccacccaaa ggaaaagaaa gaagaaaaga gaaacataga ctcaacggga 420
aaacaaggct tcaaatggca atcaagaaac atctatcagt gaccacctga attgttctgg 480
gaccgaatgc tgccatcaaa agacacagag ggccagattg ggtacctgcc cgggcgggcg 540
ctcgaaagcc gaattctgca gatatccatc acactggcgg ncgctcgagc atgcatctag 600
agggcccaat tcgccctata gtgagtcgta ttacaattca ctggccgtcg ntttacaacg 660
tcgtgactgg gaaaaccctg gcgttcccaa cttaatcgcc ttgcagcaca tccccctttng 720
ccagctggcg taatagcgaa aaggccccac cgatcggcct ttccaacagt tgcgcacctg 780
aatggcgaat ggaccccccc gtaccggggc attaaccncg gng 823

<210> 299
<211> 674
<212> DNA

<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 299
ggncaattat gttgattata tgtgatttga agaagtcaaa atgaactgcg ttaagatcat 60
ttgaacatca tgtttcttat aactatcctt gtattctttt cacaagaggt ctataaaata 120
tttgtttaaa agtgtttttt tgtatcaaaa tactcggaca attagaagct tctttttaac 180
atgtattgat atgacttgaa ttattatttt ctagaattaa gagccctata tctacctgta 240
aatctttttg cataatatca gtttaagctt ttgtttctgt tattcttgat ttacagctta 300
gttgtccctt ggtttttctt tcaaaggaag caatcaatgt gcatgctttt atgtttttca 360
caagagggtg tgtttggatg aaagtaaaag aaaaaaatna aananaaaaa aaaanaaaaa 420
aaaaaaaagc ttgtcctgcc cgggcggccg ntcgaaagcc gaattccagc acactggcgg 480
ccgttactag tggatccgag ctcggtacca agcttggcgt aatcatggnc atagctgttc 540
ctgtgtgaaa ttgtatcccg gtcacaattc cacacaacat acgagccgga agcataaagt 600
gtnaacctgg ggtgcctaat gagtgactaa ctcacattaa ttgcgttgcg ctcactggcc 660
cgctttccan tcgg 674

<210> 300
<211> 797
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 300
gttttcaccc agtgcttttt aaaatttcct ggtgactaat tcccaatatc aaaataaaca 60
ctatcaaata cccaaatttt aatgttaagg ctaatatttt cacttcacat ccatatgcac 120
aaccataaaa cattccattt taaatatgta gtaatcaaag tatgaataca ttataccatg 180
tatatatagc atcagagttt caaactgtag aattattcaa gttcatgaat cttgtaacag 240
tatttactag agatgtaaat tagcattttg ttcttcaacc acacttacaa atggtctggt 300
atccataatg accaaagcaa aaaataagac aggctgagtt tatgatacag tatttaaaaa 360
agtagcaatg tgttggaaag aactgctatt taattaaaca gaatcattct agtctttcag 420
aaagttatct taatattttg gaaaggtata taaaaatagc aagctatttc catgtatttt 480
attgtagagc tataggtaat tttttgattt ttttgaacac atttgaatat ttactcttct 540
gntctatttt aatgcacggt catcatttaa tgnccatttt tatatcttgn aatatcatgt 600
cattcaataa tttttagaca cagatctgat tttatttttc attttatcat tagatgtttt 660
ttagtttatt tttacacata aaaatgtaat tttatataac aagccatgga atccacgtat 720
caggaattgc ttgatagcac tatatattaa ataatcatca aattattgaa tcatttggga 780
agaaaaatct tggtagc 797

<210> 301
<211> 303
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 301
accagaaggg actcctaccc ggccgagggc ggtgagcact gtagacacac ctgcaacgtg 60
aagcctgagg tctggcgggc agttatctcc gcttgggttt gtccttgggc tcactacttc 120
cttcccctgg ctggagcttt tgtgagtcct ggtaatactg ggtcatgaac tgggtgctgg 180

cttcaggttc gctcaggtgg aagcggctca gaaatttgtc cattttccaa gaacctcgag 240
ttttgttttc tttgggaagg agagagatgc tctttcctgc tgaacatann cnaagaactg 300
gta 303

<210> 302
<211> 823
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 302
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gaaaaaagaa aaaaaccatt ggaaagcagt gacttagaaa gccagcatac agatctaacc 120
atgaagatat caaaaacata aaatgaaata aactacatca aagtatacaa tgagggcgag 180
gaatggaaga aaatgtaaat cctttgtctt gtttcaatga cgcgtttggt cctatgtaac 240
ggtcaggcta aagtgagcag acaaacgaag gggttaacat aaaaacaaaa cagggcaacc 300
ccaatccaaa agccaccact acattcaaaa atcggaaaag gaaaggactc cagcagagaa 360
tcaacggaac ccatccaccc aaaggaaaag aaagaagaaa agagaaacat agactcaacg 420
ggaaaacaag gcttcaaatg gcaatcaaga aacatctatc agtgaccacc tgaattgttc 480
tgggaccgaa tgctgccatc aaaagacaca gagggccaga ttgggtacct gcccgggcgg 540
ncgctcgaaa gccgaattct gcagatatcc atcacactgg cggccgctcg agcatgcatc 600
tagagggccc aattcgccct atagtgagtc gtattacaat tcactggccg tcgntttaca 660
acgtcgtgac tgggaaaacc ctggcgttac ccacttaatc gcttgcagca cattcccctt 720
tcgncagctg gcgtaatagc gaaaaggccg caccgatcgn cctttccaac agttgcgcan 780
cctgaatggc naatggacnc ccctgtacng ngcattaaac gcg 823

<210> 303
<211> 818
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 303
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ctatcaaata cccaaatttt aatgttaagg ctaatatttt cacttcacat ccatatgcac 120
aaccataaaa cattccatttt taaatatgta gtaatcaaag tatgaataca ttataccatg 180
tatatatagc atcagagttt caaactgtag aattattcaa gttcatgaat cttgtaacag 240
tatttactag agatgtaaat tagcattttg ttcttcaacc acacttacaa atggtctggt 300
atccataatg accaaagcaa aaaataagac aggctgagtt tatgatacag tatttaaaaa 360
agtagcaatg tgttggaaag aactgctatt taattaaaca gaatcattct agtctttcag 420
aaagttatct taatattttg gaaaggtata taaaaatagc aagctatttc catgtatttt 480
attgtagagc tataggtaat tttttgattt ttttgaacac atttgaatat ttactcttct 540
gntctatttt aatgcacggt catcatttaa tgnccatttt tatatcttgn aatatcatgt 600
cattcaataa tttttagaca cagatctgat tttatttttc attttatcat tagatgtttt 660
ttagtttatt tttacacata aaaatgtaat tttatataac aagccatgga atccacgtat 720
caggaattgc ttgatagcac tatatattaa ataatcatca aattattgaa tcatttggga 780
agaaaaatct tggtagcaat aaatacatgc ttctctgg 818

<210> 304
<211> 815
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 304
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caaatgctct gatgtgcaaa aaagggtgga atatccacat cagcttgccc atgtgcatta 120
catgcccaag gtttctaacc agtgaggtga atttgctggt gtttataagg ggaagagatt 180
tggctggagg ctttttcaca ttcactgtat ccacagattt ttttctcaag gtagaatttt 240
ctgatgctta gtaagggata tactctgaat accttcccac atttactcct tcttagggat 300
tctctatagt atgtgttcct gatgcttagt aagttttact gatgtttttt accgcatttg 360
agcagtttct ccccagtatg agttgttgag tttttcagtt tgttttatta ggaaaaatat 420
gtgtctaaag gctgttctat atgcattcca ttgaaaaggc ttatccccat cataaactgt 480
ctgatgttga ataatgtgtg tcctctaact aaagcctttc caaatccatt acactcattg 540
ntttcttatt agtttgaatt ctctggtgtt tgataaagga ggaggtatgc ctggaggccc 600
actccctttc ttgatattaa tagatagctt ctgtttanta tgtcctgtct gatattgaac 660
aagatgtatc ctctgacctg aagtcttcca tatacgttac actcatagga tctctttctt 720
ctatatcctc tganggttaa tggtgtgtgg acctgcccgg ggggccgtcn aaacccaatt 780
ctgnanatat ncattacact ggnggccgnt ngant 815

<210> 305
<211> 691
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence
Muscular steatosis
Porcine

<400> 305
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ctggtctcag aaaaggcaga gaactacaga ctattccagc aaatttgctt cagcgcacag 180
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accttctcct atacctatgc aananaatta ataacnccct tataggatnc ccttggttgg 660
gaccggggcc taagatcaan cnttagggaa t 691

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(74) Agents: **CÔTÉ, France** et al.; Swabey Ogilvy Renault, Suite 1600, 1981 McGill College Avenue, Montréal, Québec H3A 2Y3 (CA).

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6 September 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 01/079287 A3

(54) Title: STEATOSIS-MODULATING FACTORS AND USES THEREOF

(57) Abstract: The present invention relates to a method of modulating the muscular steatosis-modulating factors (MSMF). The determination of concentrations of the MSMF is described for the establishment of the steatotic state in individuals. Also, is disclosed a method of selecting individuals to serve as founders of animal lineages. The present method involved too the treatment of human and animals with agonists or antagonists of MSMF depending of the effects desired.

INTERNATIONAL SEARCH REPORT

Internat pplication No
PCT/CA 01/00509

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N33/74 C12Q1/68 A61K38/17 A61K39/395

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N C12Q A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, CHEM ABS Data, BIOSIS, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99 23493 A (UNIV ROCKEFELLER) 14 May 1999 (1999-05-14) the whole document	1
A	US 4 929 600 A (COGBURN LARRY A) 29 May 1990 (1990-05-29) abstract	1
A	WO 99 67631 A (DOYLE JOHN CONAN) 29 December 1999 (1999-12-29) abstract	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
7 May 2002	17/05/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Moreno, C

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 38-45, 48-72

Present claims 38-45 and 48-72 relate to compounds defined by reference to a desirable characteristic or property, namely being muscular steatosis-modulating factors.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound/method/apparatus by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the compounds.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Internat pplication No
PCT/CA 01/00509

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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WO 9967631	A	29-12-1999	AU	744213 B2	21-02-2002
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